Chapter 11. Evidence from France

The main body of evidence that has been studied for this thesis, from the south of England, has now been documented and the initial results, showing the coin types and die/style-linking, have been considered. Before further discussion is provided regarding the nature of this coinage, other available evidence which can assist towards a synthesis must be presented. There is much published information about both irregular and regular coinage that will be of use and this will be studied in chapters 13 and 14. In this chapter, barbarous radiates which circulated outside Britain, in the province of Gaul, will be studied.

It has been observed that barbarous radiates, in particular Gallic Empire imitations, are found commonly in large numbers only in Britain, northern Gaul and in the Rhineland (King 1981, 94). The circulation of different coin types between the years 260 and 294 in different parts of the Roman Empire will be studied below in chapter 14. Comparison of at least some of the French material with the results obtained from southern England is important towards a fuller understanding of this coinage. A review of the French literature was undertaken in chapter 2 and the main trends in French scholarship were outlined there. Some French publications have been used for comparison elsewhere, in order to complement other findings.

In 1970 Lallemand and Thirion published a map of known die-links between continental and British coins (Lallemand and Thirion 1970, 69). Instances of continental linking had previously been identified (H.B.Mattingly 1963, 24) but this map, together with illustrations of the coins involved, generated curiosity and served to promote interest into the

study of barbarous radiates generally. In order to locate additional examples for this study, it was decided to look at collections from the north of France, which had geographical associations with Britain. A first hand study was accordingly undertaken. For practical reasons of time, cost and accessibility, those collections studied for comparison were finally reduced to Rouen, Amiens and the Bibliotheque Nationale in Paris.

The objectives

The evidence for a wide and vigorous circulation of the irregular coinage in Britain has been established. It is now important to discover whether that same coin was circulating beyond the provincial boundaries. Such a study will throw light on the development of the use of barbarous radiates and also on the relationship between Britain and Gaul at the time. Numerous examples of die-linking along specific axes of contact could reflect trade routes. It is also intended to establish whether separate traditions of manufacture existed in either province.

The coinage of barbarous radiates is believed to have had its origins in Gaul but subsequently thrived in Britain as well. To look at the coinage of either province in total isolation would be to reconstruct a picture using only half of the available evidence and could result in a distorted view of the subject.

The material studied

A visit was made to France in order to study the available coin collections, which contain numbers of barbarous radiates, at

first hand. A new body of comparative data was assembled. The sources of the material studied are as follows:-

A. The Bibliotheque Nationale, Paris. This is the French National collection. Some 500 barbarous radiates were closely studied. Very few of these coins were in fact provenanced, although the vast majority will have come from northern Gaul. Many come from hoards. In addition, some hoards were inspected.

B. Rouen Museum. Three hoards were studied, together with over sixty other finds from four sites in the Rouen area.

C. Amiens. A handful of examples from nine sites in the area. Unfortunately, the main excavated collection from Amiens had been dispersed into several hands prior to the visit.

D. Published hoards. Numerous French publications have been studied, most of which are well-illustrated and contain much comparative information.

The Bibliotheque Nationale collection

The Cabinet des Medailles in Paris contains a very large collection of barbarous radiates. It is now impossible to ascertain just how representative these coins are of the types originally in circulation. The likelihood is that they are better examples, selected for their quality and distinctive engravings. Many of those studied were of very high quality engraving and comparable to regular coins in this respect. Even the comparatively crude examples tend to be better than average British site finds. How many of these coins came from hoards and how many from sites is again unknown.

The types present show a similar range to that found on English sites but with slightly more variety present, embracing more different Central Empire types and more interesting

hybrids. The most interesting examples will be considered below. All examples inspected were struck. Obverse legends were usually fairly accurate, with reverses more likely to make no sense.

The Pietas, sacrifical implements, category presented irregular moneyers with great potential for derivation and stylisation. Numerous variations are present in the Paris collection, as they have been on English sites. Some of these have been illustrated in figure 11:1. Examples 1, 4, 7 and 8 still retain vestiges of the subsidiary implements, while the remainder omit these entirely. The types of derivative shown here are not found in England and an independent tradition of engraving must have developed.

The range of animal reverses employed by Gallienus, in his legionary, Apollini Cons Aug and Dianae Cons Aug issues, would also be expected to have been popular for copying. These are, however, quite rare in Britain. In the Paris collection they are common, with examples of the stag (most common), goat and centaur. Four such examples are shown in Plate 11:1, 10-13. Reverses carrying two or three figures are also rare in Britain. Four of these were recorded (Plate 11:1, 16-19). Originals of this type are known from the coinage of Aurelian, Tacitus, Florian and Probus. Number 19 is a three figure type, with a large central figure whose arms are outstretched, above two smaller characters. This must be taken from Aurelian's post-reform Oriens Aug (RIC 61). The others may derive from this emperor's Concordia Aug or a type used by Probus.

Plate 11:1, 22 carries the mint mark IXXI, in the exergue, clearly derived from the coinage of Aurelian's reform, in AD 274. Many of the unusual types can be found to derive from the

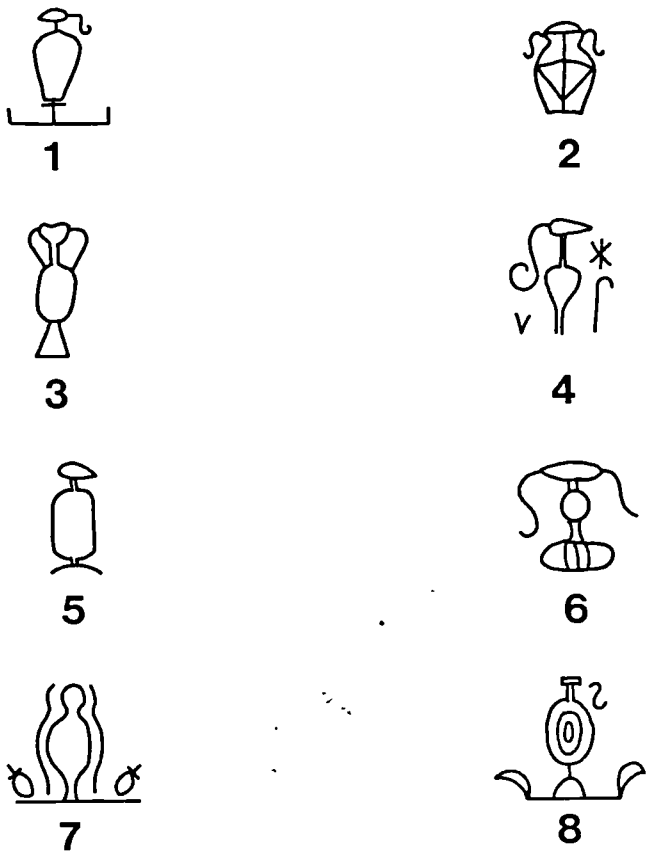


Fig.11:1 PIETAS derivatives from Gaul

coinage of Probus and Aurelian. One mounted figure (not illustrated) comes from the former emperor's Virtus Probi Aug (RIC 288). Seated female types are extremely rare in England. Only two have been recorded, both of which come from Richborough (Davies 1982b, Plate 1, 11-12). Three were found in Paris, shown in Plate 11:1, 7-9. The first two have legends of Tetricus II and the last, of Victorinus. These types probably derive from Probus' Salus Aug (RIC 413), in the case of number 7 and from Aurelian's Fortuna Redux (RIC 47), in the cases of the latter two. A hexastyle temple is shown on two coins; numbers 14 and 15. They both derive from the coinage of Probus. The former contains the figure of Roma inside the temple, from the Roma Aeternae reverse (as RIC 190). The original was dated to AD 279-80 and reflects late irregular production in Gaul.

One unusual form which at first glance resembles a temple is number 4 in the Plate. However, the reverse legend confirms that this is a Consecratio, altar, derivative. Three other less unusual types, but with distinctive styles, are numbers 27 (Victoria Aug) and 28-9 (Mars); all belonging to the Tetrici. Four examples, three of which are illustrated as numbers 20 and 23-4, are highly unusual for irregular coins and may be based on Tetrican gold issues. Number 20 has an obverse bust of Tetricus I and a reverse bust of Tetricus II. Number 25 has a reverse legend COS III and the letters COS may also be made out in the exergue of number 24.

A number of the Bibliotheque Nationale coins were found to link stylisically with other collections. In particular, a group of three familiar coins was recognised, shown as numbers 1-3. They belong to the die- and style-linked series present in the St Mard I and II hoards from Luxembourg (Lallemand and

Thirion 1970, Plate B, 36/4741). The group has an obverse form with small head and large lettering. The reverse carries either Fides Militum or two concentric squares, again with large lettering, starting VII- or VIC-. In the Cabinet des Medailles, there are two of the former variant and one of the latter. This group also provides the first new cross-Channel link. A single example of this group has come from Richborough, now in the British Museum collection, and is illustrated here as number 6. A second cross-Channel link is that between Wanborough (Wiltshire) and a coin shown here as number 15. The former example has been illustrated in Plate 6:6, 6. These coins are not die-linked but of the same module and style. The third such link is between a Paris coin and Colliton Park (Dorset). The former coin - a distinctive copy of Gallienus - is shown as number 11. It shares both obverse and reverse dies with a coin illustrated in Plate 6:8, 1.

Rouen Museum

The main strength of the large coin collection in Rouen Museum was the presence of several large late-third century hoards. All were in good condition and contained barbarous radiates. These will be noted separately.

The tresor de la rue Jeanne d'Arc

This hoard consisted of 150 antoniniani, complete with vase. Seventy-seven have been retained by the museum, which include twenty-four irregular coins. These are well engraved imitations of large module. In general, they are reminiscent of the styles and quality seen in the Hollingbourne hoard from Kent (Carson 1961). Despite a detailed comparison, no precise

links could be found between these two hoards but a similar date is suggested and a similar origin is considered likely. One coin of interest is shown in Plate 11:2, 1, which is another example of the seated female type, which was obviously more commonly copied in Gaul than in Britain.

A small iron axe was found with this hoard, similar to those found on many religious sites. It was 4 cm in length and its presence suggests that the hoard may have been a votive deposit.

The tresor de la rue St Etienne des Tonneliers

This hoard was discovered in 1831, next to a Roman hypocaust in Rouen. It originally contained between fifty and sixty coins, most of which were antoniniani, but included a denarius of Gallienus and two small bronzes of Constantine I. No container was found and the fourth century issues probably represent contamination at a later date.

Fourteen barbarous radiates were recorded from the hoard. Again, these were found to be good copies, of similar quality and style to the Hollingbourne hoard. The reverses are easily associated with prototypes. There is some similarity of portrait style within the hoard.

The tresor de la rue la Rochefoucauld

This hoard was not available for personal inspection as it had been moved to Paris. It is noted here because it is a minim hoard. Such hoards are not well documented from Gaul, as they are in Britain, and its existence is worthy of note. It contained 3,604 minimi, concealed in a single pot which had been covered by a brick. The coins ranged between 13 mm and 6 mm diameter, which is a more restricted size range than that

from equivalent hoards in Britain. The coins are copies of Victorinus and the Tetrici and individually they weigh between 0.30 g and 1.00 g.

An unprovenanced hoard from the Dieppe area

The probable findspot of this officially unprovenanced hoard is Neuville les Dieppe or Le Bourg Dun (Mme J.Delaporte, pers.comm.). It is unpublished and comprises 300 coins. The types are all of Gallienus, Claudius II, Quintillus, Postumus, Victorinus and the Tetrici. A sample selection have been illustrated in Plate 11:2.

Plate 11:2, 10 is another interesting copy of a Gallienus animal reverse; in this case a stag. As in the case of the previous hoards, it is considered that these coins exhibit a similarity to the Hollingbourne hoard imitations. In particular, numbers 11, 13 and 14 and 16-18, show similarities. More specifically, number 12 shows a close style to that in a coin from Verulamium (Plate 8:4, 26).

Site finds from the Rouen area

Fifty-four barbarous radiate site finds were recorded from the Rouen area. The site of Saint Saens produced just three. The 1901-4 excavations at the Foret de Rouvray produced five. Thirty-four came from the 1901-2 excavations at La Mare du Puits and twenty from the Temple des Buis (Foret de Louviers).

It is uncertain just how representative these coins are of those in general circulation. There is an almost total absence of minims among them. The dates of the excavations in question may mean that the smaller, less-collectable, coins were not recovered. However, it may possibly be that this is an

accurate reflection of the local coinage and that minims were indeed rare. The quality of engraving of coins was very high and the poorer workmanship found on the majority of British site finds is absent. This does seem to suggest that the poorer examples, which would have included minims, were not collected.

Three examples from La Mare du Puits are shown in Plate 11:2, 19-21. Three others from Temple des Buis are also shown (numbers 22-4). Number 24 is an unusual variant of the Divo Claudio, altar, category. In general, the range of types encountered is very much the same as that encountered on British sites. The more unusual forms recorded in Paris and in the hoards were not found from the sites.

Amiens

Regrettably, the main coin collection from excavations at Amiens had been dispersed into several different hands prior to this research. A handful of barbarous radiates were recorded from a total nine sites in the Somme. No die- or style-links were found with these coins.

A summary of continental die- and style-linking

A number of additional die- and style-links between British and French collections have been identified. Others have also been identified in the course of studying published hoards. The known links will now be summarised.

A. Previously recorded die-links (from Lallemand and Thirion 1970)

1. Woodeaton (Oxfordshire), site with the St Mard I hoard.
2. Mildenhall (Suffolk), hoard with the La Vineuse hoard.

3. Mildenhall (Suffolk), hoard with the Thiais hoard.

B. Links found during the course of the current study.

Link 1. (Chapters 7 and 10). A die- and style-group.

English coins: Neatham, Paternoster Row hoard (2), Colchester (Culver Street).

Gallic coins: Examples in each of the St Mard I and II hoards (Lallemand and Thirion 1970, pl.B, 15/3901).

Link 2. (Chapter 11). A style-link.

English coin: Richborough.

Gallic coins: St Mard I hoard (Lallemand and Thirion 1970, Pl.B, 36/4742). Group also associated with St Mard II hoard (Lallemand and Thirion, Pl.B, bottom group). Three further examples present in the Cabinet des Medailles (Pl.11:1, 1-3).

Link 3. (Chapter 7). A die/style-link.

English coin: Winchester.

Gallic coin: St Mard I hoard (Lallemand and Thirion, Pl.15, 3908).

Link 4. (Chapter 10). An obverse die-link.

English coin: Canterbury.

Gallic coin: La Vineuse hoard (Le Gentilhomme 1942, Pl.7, 26).

Link 5. (Chapter 10). An obverse and reverse die-link.

English coin: The Hollingbourne hoard.

Gallic coin: La Vineuse hoard (Le Gentilhomme 1942, Pl.3, 21).

Link 6. (Chapter 8). A style-group.

English coin: Silchester (3) and Verulamium (3).

Gallic coins: The Entrains hoard (Nicolet-Pierre 1978, nos 610 and 628).

Link 7. (Chapter 11). An obverse die-link.

English coin: Wanborough.

Gallic coin: Cabinet des Medailles (Plate 11:1, 15).

Link 8. (Chapter 9). A style-link.

English coin: Chichester.

Gallic coin: Entrains hoard (Nicolet-Pierre 1978, nos 237, 239 and 330-2).

Link 9. (Chapter 6). Obverse and reverse die-links.

English coin: Colliton Park.

Gallic coin: Cabinet des Medailles (Plate 11:1, 11).

Link 10. (Chapter 7). An obverse die-link.

English coin: Bitterne.

Gallic coin: The Parvis, Notre Dame, hoard (Giard 1983, Pl.2, 120).

Link 11. (Chapter 8). Style-link.

English coin: Verulamium.

Gallic coin: Hoard - Rouen Museum (Plate 11:2, 12).

Link 12. (Chapter 8). Style-link.

English coin: Woodeaton.

Gallic coin: Hoard - Rouen Museum (Plate 11:2, 15).

C. Recently published continental die-links.

(a) Examples from the Cunetio hoard (Besly and Bland 1983).

1. Cunetio with the Malicorne hoard (five coins).

2. Cunetio with the Bonneuil hoard (five coins).

3. Cunetio with the Etaples hoard (three coins).

4. Cunetio with the Childs Ercall hoard (one coin).

(b) Examples from the Allonnes II hoard (Estiot, Amandry and Bompaire 1986).

1. The Beachy Head (1973) hoard with Allonnes II (two coins).

Although the list above includes just twelve recognised new instances of cross-Channel linking, this number is not small in relation to the amount of comparative data analysed. The figure is in the approximate region of 1%-2% of French coins studied. This is a high figure considering how few examples have been found within Britain itself. This comparative study of Gallic material has been necessarily brief but it has shown that the links recognised by Lallemand and Thirion were not isolated examples. Since this study was undertaken, some more recent studies have shown more examples of die-links between English and French hoards (section C, above). The links can now be used to construct a framework for an understanding of the circulation of this coin.

Discussion

All of the links listed above have been shown in figure 11:2, 1. It seems to be the case that a common pool of irregular coins was being used on both sides of the Channel during at least part of the period between AD 270 and the mid-280's, when barbarous radiates were in circulation. A closer study of the

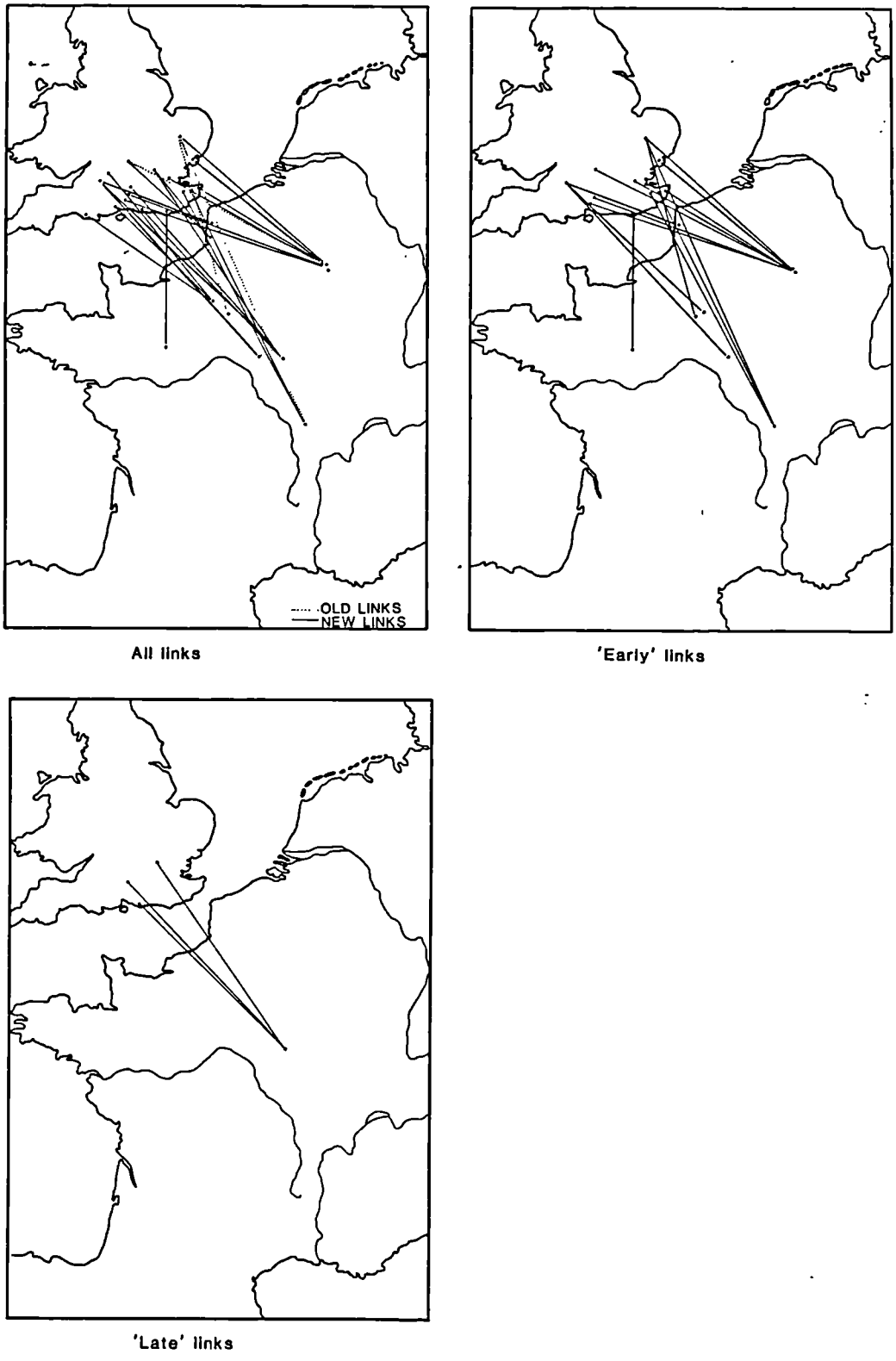


Fig.11:2 Maps of continental linking

coins involved can provide more precision to this observation.

Giard has shown that the production of irregular antoniniani was under way in Gaul by AD 263 (Giard 1963). Copies of earlier types, such as those of Gallienus and Postumus, are far less common in Britain. The majority of the links listed belong to contexts dateable, by hoard associations, to the mid-270's. The hoards of Paternoster Row and Hollingbourne from England, St Mard and La Vineuse from Gaul, all terminate with a small number of coins dating into the reign of Probus. These hoards - the earlier of the hoards containing barbarous radiates - contain better copies, whose modules generally conform to, or approach, regular size. Those links with 'early' associations are shown in figure 11:2, 2.

The examples included above in link 6, between Silchester, Verulamium and the continent, are different. They are smaller coins and their engravings cruder. These particular coins belong to the Invictus/ewer group, which is associated with later hoards, which can be dated to the early 280's. In fact, these particular coins are thought to be slightly cruder derivatives of the main group and can, consequently, be dated later than some. Nicolet-Pierre also dated the French half of this link to AD 281-2 (Nicolet-Pierre 1978). Links 8 and 12 are thought to be of similar late date. Although it is very difficult to apply precise dating even to hoards like Hollingbourne, the relative dating of earlier and later hoards remains valid. Continental links with later associations are illustrated in figure 11:2, 3.

It can be deduced that cross-Channel linking was not the result of a single brief contact but that the phenomenon continued for the duration of this irregular currency, with the early and late barbarous radiate types involved. The number of

such links will increase as more comparative material is studied in depth. It is also possible to say more about the direction of coin flow. The earliest barbarous radiates were produced in Gaul (Giard 1963). At that time, prior to AD 270, there had been no tradition of die-engraving in Britain. No official mint was established in Britain until Carausius' usurpation, in 287. The regular mints of the Gallic Empire were situated in Gaul, at Cologne and Trier, and it was in Gaul that the manufacture of these imitations took off. The earliest imitations found in Britain travelled from the irregular Gallic mints. The die-links recorded above in section C, between the Cunetio and French hoards, were predominently earlier types of Postumus and are likely to have originated in Gaul. The authors of the Cunetio hoard report considered that these were produced by, 'mint personnel in an unofficial capacity' (Besly and Bland 1983, 67-70). The combined evidence available shows the 'early' links to outnumber the later ones.

By the time the coins referred to as later types were produced, barbarous radiates were being produced in Britain. The examples in link 6 are associated with the large Invictus/ewer group commonly found on English sites and hoards (see chapter 12). However, they have not previously been recorded from France. This would be a clear example of a major British type and the two examples present in the Gallic hoard from Entrains would almost certainly have originated in Britain.

To summarise the evidence presented here, it can first be stressed that the number of die- and style-links is not extensive. The majority involve large, good, imitations, of

good fabric, which represent earlier emperors' coinage. The bulk of examples appear to represent the earlier phase of barbarous radiate production, when this coin was being struck in Gaul and then transported across the Channel for circulation in Britain, as well as in Gaul. When barbarous radiate production increased significantly in Britain, there was no need for the importing of Gallic coin and we find much fewer examples of cross-Channel linking in the later years of the phenomenon. The later examples that we do have appear to have been produced in Britain and show that coin produced in this province was still acceptable in both.

The information presented in this chapter shows that in the earlier years of barbarous radiates, the same coinage was circulating on both sides of the Channel. It was imported to Britain in order to supplement the dwindling numbers of official coin in circulation. In later years, the separate production in both provinces would have seen slightly different traditions of engraving develop, as has been evidenced in the differences encountered earlier in this chapter. Although there was no longer the need to import this coin in later years, there appears to have been no barrier to the circulation of the poorer types in either province.

The use of minims in Gaul

It is possible to obtain the impression from French publications that minims were rare in Gaul. Published hoards deal almost exclusively with types of larger module. Although such reports do not necessarily form a representative sample of what coins were in circulation, the general impression that there were less minims circulating in Gaul than in Britain was supported by the French museum visit. Hardly any minims were

encountered in museum trays. Time has not been available during the current study to follow up this question by further study of more recently excavated assemblages. However, the writer has enquired among French numismatists for relevant information.

At Rouen, details were supplied of a hoard of 3,604 minimi from the city, from the Rue de la Rochefoucauld (see above). Monsieur M. Amandry has also supplied details of another large minim hoard, from Montbouy, Loiret. This was discovered in 1970, in two pots; one containing 20,000 coins and the other approximately 5,000. The coins were returned to the finder in 1972, with the exception of 5,000 from the first pot, which are now housed at the Bibliotheque Nationale, in Paris. These are all minimi, which range in weight from 0.30 g to 0.50 g each. Amandry has sorted these into a number of die-groups. In 1980, a collection of 202 minims from Gaul, known to have been part of a larger hoard and purchased at Sotheby's was published (Doyen, Avril-Decembre 1980). Amandry recognised these to be part of the Montbouy hoard. Amandry has subsequently published further details of the hoard (Amandry 1984).

The hoards cited above are large in comparison with British minim hoards. They do not appear to have contained coins larger than minim size, which are generally present in British minim hoards. Neither are die-links known between this category of hoard between the two countries. It has been discussed how Britain and Gaul were producing their own coin by the mid-270's when minim production would have begun. The differences implied and observed in the case of minims is a further example of the separate development of barbarous radiate production during the later years of this coinage.

Manufacture in Gaul

There are a number or recorded instances of evidence for barbarous radiate production in Gaul. These are as follows:

Moulds from Lyons. These moulds were discovered in 1911 and have been fully published (Turcan 1982). They include impressions of regular antoniniani, very similar to those moulds found in England at Whitchurch (Boon and Rahtz 1966). However, these examples were larger and originally stacked together in a column, into which moulten metal was poured, through channels. These moulds are housed in Rouen Museum and were personally inspected by the writer (an example is illustrated in Plate 11:2).

Minim production at Heidenkopf. A deposit of metal rods, cut metal bars, bronze blanks and minims were discovered on the site of a basilica building, at Heidenkopf (Schaub 1976).

Fontaines - Salees. Eighty-six pieces of unstruck bronze, together with a limestone coin mould, of probable late-third century date, were found at this site (Buckley 1981, 288).

Moulds from Autun. At this site, clay moulds were recorded, together with an unspecified number of poorly made irregular antoniniani, of Tetrican type, apparently made from them (Buckley 1981, 288).

The evidence cited here embraces both casting and striking methods. The types of production evidence closely parallel those recorded in Britain, which will be summarised in chapter 12.

The circulation of barbarous radiates in Gaul

Available coin lists show that large numbers of irregular antoniniani circulated on Gallic sites (Reece 1973; King 1981). These lists compare numbers of coins of different

dates, embracing a spread of sites from all over Gaul. Similar figures for other provinces will be studied and compared in chapter 14. It was clear from browsing through the figures for Gaul that there was a degree of regional patterning present and that this data would be most easily interpreted in map form.

Figure 11:3 shows a map of Britain and Gaul. The numbers shown represent the number of barbarous radiates present at each site, as a percentage of the total coins of the period 260-95 (Reece's issue periods X and XI; Reece 1972, 271). The relative figures for some British sites have also been plotted, for comparison. It is clear that the highest numbers are concentrated in the north of Gaul. This shows that barbarous radiates formed a significantly higher proportion of the coin in circulation during those years than elsewhere. A marked drop in percentages is recorded south of a line between Poitiers and Dijon. It is also noted that barbarous radiate hoards from France tend to come from the northern half of the country.

It has been possible to superimpose contours which join sites of approximately equal percentages. This shows an area in the extreme central north of Gaul, roughly located between St Malo and the modern Belgian border, with the highest percentages. Only two British sites had figures high enough to be included within the same range. The second percentage contour runs concentrically around the first. A third has also been drawn, which joins sites with a value of 0% and very low figures. To the south of the third line, percentages remain very low, with only sporadic higher values.

It would appear from this evidence that the central northern part of Gaul was the main area of circulation and probably

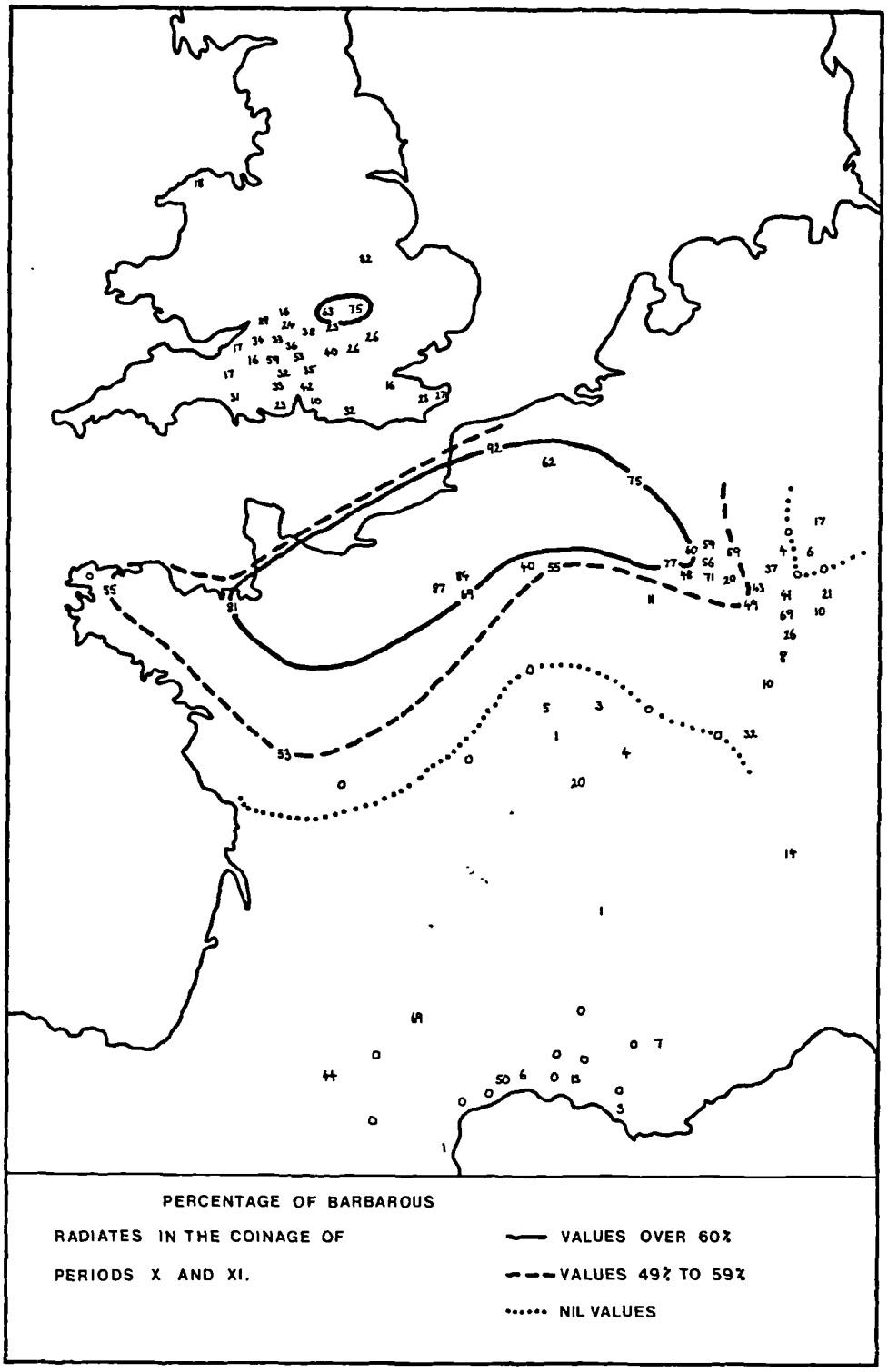


Fig.11:3 Contour map of barbarous radiate density

production. Trier and Cologne, the Gallic Empire mint cities, fall outside this area. The figures show that barbarous radiates were a still more important part of the circulation pool than in Britain and probably enjoyed a longer period of use.

Conclusion

Barbarous radiate production started earlier in Gaul than in Britain, probably in a semi-official capacity (Besly and Bland 1983). The main production area then shifted away from the official mints to the central northern part of the country. The use of these coins spread to Britain, with coin being transported to that country from the Gallic mints. From about 270, Britain was striking its own irregular coin and Gallic products ceased to be imported. Some coin still crossed the Channel, but probably by way of interaction between citizens, such as trading contacts. Once Britain struck its own coin a separate tradition of engraving styles and types can be seen in each province. Just how long these coins continued to circulate in Gaul is a problem beyond the scope of this study.

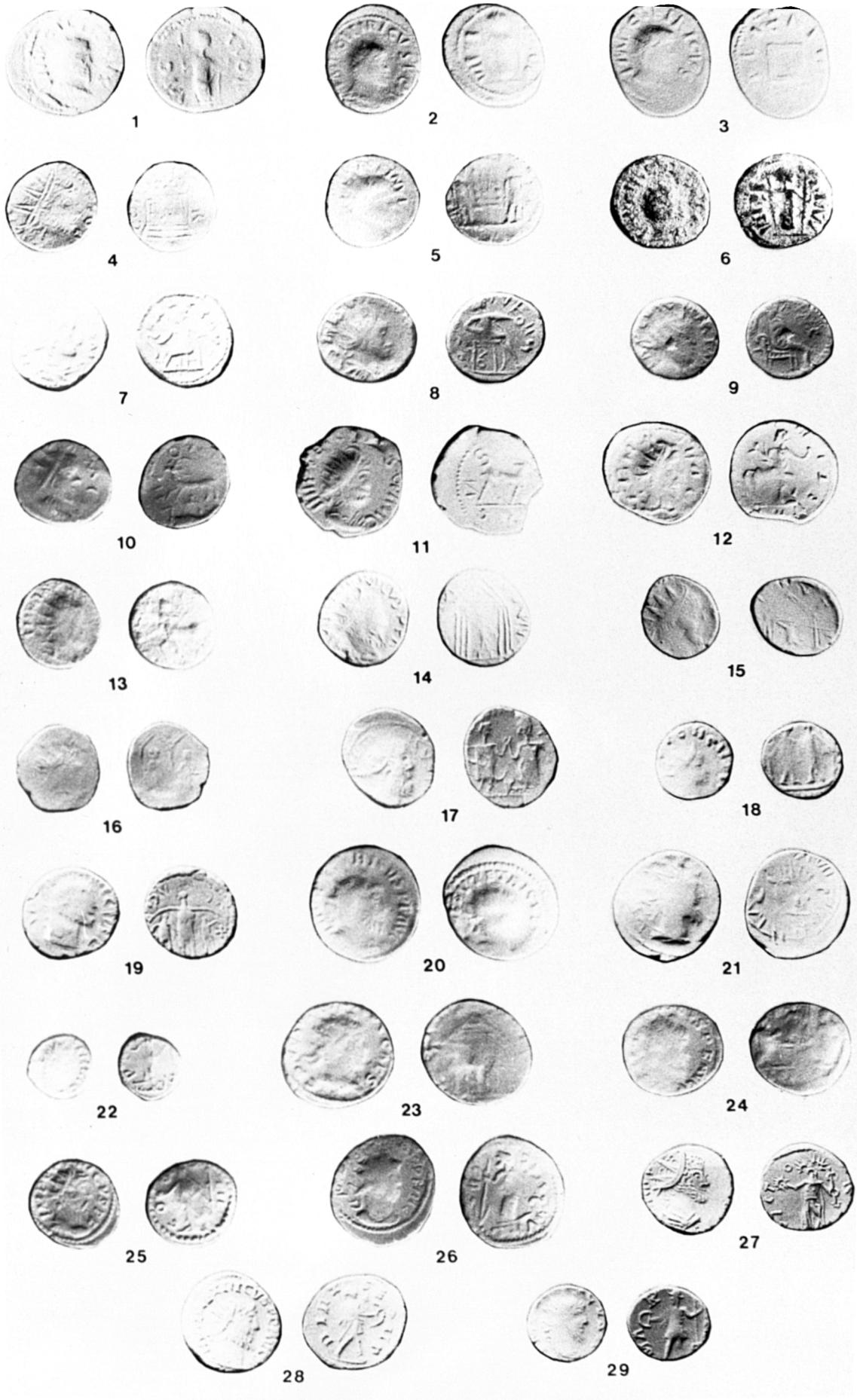


Plate 11:1 Continental die- and style-links. Scale 1:1

Plate 11:2 Gallic finds. Scale 1:1

Chapter 12. A summary of barbarous radiate die- and style-groups and the problem of isolating sources of production

A summary of the known barbarous radiate die- and style-groups was presented in chapter 4. In this chapter, the new groups revealed during the course of this study will be summarised in a similar way. These groups will be mapped and the distributions analysed. This information will then enable some discussion regarding the frequency of mints and the problems involved in isolating these sources of production.

Many links have been discussed and illustrated in chapters 6-11. Some of the style-links presented will, inevitably, not be accepted by everyone. For this reason, the emphasis of discussion will be centred on the best cases only. The main groups will be given here and the constituent coins listed in each case. In this way, the foundations for a work of reference are provided, in conjunction with chapter 4.

The groups summarised below are mainly die- and style-linked groups. In addition, other groups have been compiled and listed. These comprise very unusual reverse types. In each case, the engravings of the members of the group may be stylistically very different but each carries the same unusual representation. Such types would not have been invented spontaneously and they betray a common line of development. These coins would have been copied from earlier copies, resulting in inaccuracies not present on the official coinage. In such cases, a geographical restriction may be noticed. Other groups cited are merely a listing of types only rarely encountered, such as imitations of the emperor Probus. Some groups listed in chapter 4 are again included here where new examples have come to light.

It will never be possible to produce the equivalent of a volume of RIC for barbarous radiates. The degree of variation encountered would not permit the classification and ordering of these coins to the degree of precision necessary. What will be possible is a work of reference against which all future finds can be compared. At present, very few people feel bold enough to describe these coins in coin lists. Finds can then be classified by type, quality, size and by reference to listed types, where appropriate. Once the main groups are familiar, it will be easier to impose better order on this coinage generally.

Although this study has been restricted to barbarous radiates from the south of England, some other examples have been encountered during the preparation of this work. Good links encountered elsewhere will be included in this summary of groups.

One major impediment to the establishment of such a catalogue is the development of a satisfactory nomenclature. Groups have been given a number here, together with a brief descriptive title. The numbers are for ease of reference, in particular for mapping purposes. They have no significance in terms of chronology, location or type. The groups will now be listed.

Group 1. The SPES group (figure 12:1)

Published examples: see chapter 4.

Description: see chapter 4. Illustrated in figure 4:1, N.

Distribution: Four new examples have been encountered during this study, to add to the three known coins. They come from the following sites: Colchester, Lion Walk; Colchester,

Museum collection; Richborough; Canterbury.

The overall distribution of this group has been discussed in chapter 10, in the Colchester section. These coins are tightly grouped in the south east, no further west than Verulamium. Two of the seven known coins come from Colchester and other examples are spaced equidistantly from that site. It is likely that the mint was located close to Colchester.

These coins are large in module and would have been struck early on in the sequence of barbarous radiate production in Britain.

Group 2. 'Hooked nose' obverse (figures 12:1 and 12:6)

No published examples. Illustration - figure 12:6, 2.

Description: Flan of 12 mm - 15 mm diameter, which carries only a quarter of a die-impression, showing most of a simplified face, with a prominent hooked nose. A dotted border surrounds an abstract legend comprising a series of dashes.

Distribution: Colchester, Canterbury (2), Silchester, Cirencester (possible).

The Cirencester example may be related, although it is not as close as the other four examples. It is illustrated in Plate 6:2, 11. The other examples are all from further east.

Group 3. DIVO CLAUDIO, eagle, group (figures 12:1 and 12:6)

No published examples. Illustration - figure 12:6, 3.

Description: Good obverse portrait of Claudius II, with long neck. Reverse depicts an eagle with large, bold, body. The wings may be shaded with hatching. 17 - 19 mm diameter.

Distribution: Cold Kitchen Hill (2), Silchester (3), Beachy Head (1973) hoard, Atworth.

A central-western distribution.

Group 4. Victorinus group (figures 12:1 and 12:6)

No published examples. Illustration - figure 12:6, 4.

Description: Variable sized flan, between 17 mm and 21 mm. Poor quality of engraving. Portrait shows a hooked nose and high cheek-bone; above a long, pointed, crescent shaped beard - comprised of dots.

Distribution: Seven examples have been recorded, six of which come from a single site. They are, Cirencester (6), Easton Grey. There is a tight, western, distribution.

Group 5. Tetricus II group (figures 12:1 and 12:6)

No published examples. Illustration - figure 12:6, 5.

Description: Variable flan size. The obverse portrait has a long, bulging neck and bulging cheeks. A rounded chin.

Distribution: Paternoster Row hoard (2), Winchester, Richborough.

Group 6. Claudius II group (figures 12:1 and 12:6)

No published examples. Illustration - figure 12:6, 6.

Description: A high quality engraving with chiselled, pointed, chin and nose. The ear overlaps the rim of the radiate crown. There is no legend. Up to 14 mm in diameter.

Distribution: Seven examples of this type have been found, both from hoards and sites. These are, Cirencester (2), Paternoster Row hoard, Worthing hoard (2), Mere hoard, Richborough.

Of these provenances, three come from the west and three from the south east.

Group 7. Tetricus I group (figures 12:1 and 12:6)

No published examples. Illustration - figure 12:6, 7.

Description: The diameter is 16 to 17 mm. The portrait represents Tetricus I, but with an unusual face, dominated by a bulbous nose.

Distribution: Neatham (3), Shakenoak.

Group 8. Woodeaton - Cold Kitchen Hill group (figures 12:1 and 12:6)

No published examples. Illustration - figure 12:6, 8.

Description: 17 mm to 20 mm diameter. A linear triangle forms the nose and eye brow area, enclosing the eye, which is represented by a dot. A bushy beard. No other facial details are present. The reverse is Virtus Augg, with a linear style, in most cases.

Distribution: Cold Kitchen Hill (3), Woodeaton (2), Atworth. This is an exclusively western distribution.

Group 9. Abstract face group (figures 12:2 and 12:6)

No published examples. Illustration - figure 12:6, 9.

Description: Unlike any other barbarous radiates encountered. These examples reduce the obverse portrait to a few lines. There is no attempt at an imperial likeness or even a charicature. Neither is there an attempt at a legend.

Distribution: Two examples are particularly similar, with a triangle representing the nose, which surrounds a dot, which is the eye. These are from the Paternoster Row hoard and from Richborough. Others come from, Paternoster Row hoard, Verulamium, Neatham.

Group 10. Squat PAX AUG. minim. group (figures 12:2 and 12:6)

No published examples. Illustration - figure 12:6, 10.

Description: A diameter of 10 to 11 mm. The reverse is based on Pax Aug of Tetricus I. The body of Pax is squat, with pin-like legs. The arms are too long and trail down beside the body. The legends on both faces are illiterate.

Distribution: Verulamium, Worthing hoard.

Group 11. Tetricus I, bushy beard, group (figures 12:2 and 12:6)

No published examples. Illustration - figure 12:6, 11.

Description: Diameter of 17 - 18 mm. The obverse portrait is slightly blurred. The beard comprises two rows of dots. The ear is a large, reversed, D-shape.

Distribution: Richborough, Cirencester.

Group 12. INVICTUS group (figures 12:2 and 12:6)

No published examples. Illustration - figure 12:6, 12.

Description: Diameter of 14 mm to 17 mm. The reverse carries no legend. A stiff Invictus figure has a square-shaped body, pin legs and a whip over the shoulder.

Distribution: Paternoster Row hoard (2), Chichester.

Group 13. Tall, thin, male figure group (figures 12:2 and 12:6)

No published examples. Illustration - figure 12:6, 13.

Description: Diameter of 16 mm to 19 mm. The reverse appears to be based on Invictus. The body is exceptionally long and thin. The legs are long pins.

Distribution: Cirencester, Richborough.

Group 14. Abstract, figure reverse group (figures 12:2 and 12:6)

Published examples: Robertson 1954. Illustration - figure 12:6, 14.

Description: 15 mm to 16 mm diameter. The reverse carries a very vague figure, almost abstract in appearance. It is surrounded by a very bold linear or dotted border and huge dashes, which replace a legend.

Distribution: Richborough (3), Mildenhall (Suffolk) hoard.

Group 15. The large jaw group (figures 12:2 and 12:6)

No published examples. Illustration - figure 12:6, 15.

Description: Not really a cohesive style group but a series of coins which possess the same unusual trait. They would not have all originated from the same source but, if all examples are noted and compared, some may be seen to have a common origin. They have a variety of diameters but are all above minim size. The trait possessed by all is the long prominent jaw on the portrait. The emperor's cheek may also bulge, resulting in a high relief. The portrait is nearly always that of Tetricus II, but may be Tetricus I.

Distribution: Westbury, Neatham (Tetricus I), London, Silchester, Verulamium, Richborough (3).

Group 16. Small head group (figure 12:6). Not mapped.

Illustration - figure 12:6, 16.

Description: 14 mm to 15 mm diameter. A tiny, very crude, head occupies the centre of the flan. The obverse engraving is surrounded by wide lettering and a dotted border (more oval in shape than circular).

Distribution: Richborough (an internal site group only) (4).

Group 17. The Richborough 'pin figure' group (figure 12:6).

Not mapped.

Illustration - figure 12:6, 17.

Description: 13 mm to 14 mm diameter. The reverse carries a highly unusual 'pin figure' with curved limbs and a staff, right.

Distribution: Richborough (an internal site group only) (3).

The PAX AUG group (figure 12:3)

Published examples: see chapter 4.

Description: see chapter 4. Illustrated in figure 4:1A.

Distribution: In addition to the provenances cited in chapter 4, examples have been encountered during the current study, from the following provenances: Cirencester, Neatham, Wanborough, Meare Heath hoard (7), Witham hoard, Bitterne. The known examples are mapped in a separate figure.

The INVICTUS/ewer group (figures 12:4 and 12:6)

This group has been described and referred to in numerous instances above, in chapters 4 to 11. The main description was provided in chapter 4, where it was called group B. Illustration was provided in figure 4:1B. Examples of this group have been encountered in all parts of the south of England where collections have been studied.

The original group was described by Mattingly and was a die- and close style-linked group. It is the most commonly encountered group of barbarous radiates encountered so far. Now that the widespread examples have been documented, it is clear that there is a degree of variation from the original examples in many of these. The distinctive features are always present but they often suggest engraving by a new hand. The

original reverse engravings of the bold Invictus figure or the jug, with its enlarged handle, show more control and precision than many subsequent examples.

The number of new examples encountered during this study have enabled the establishment of sub-groups. These sub-groups are based on slight variations present which are common to the group members. It is likely that regional mints would have copied the original Invictus/ewer group style and also impart their own characteristics to the type. The recognition, description and mapping of these groups may help to throw light on the frequency and location of mints.

Examples of this group encountered during the course of this study are from Verulamium (13), Winchester, Canterbury (3), Silchester (4), Cirencester (3), Gorhambury (3), Frilford, Richborough (8), Colchester (3), Wanborough, Chipping Norton, Chichester (2), Woodeaton, London, Mildenhall (Wilts) (4), Colliton Park (2).

In addition, other examples have been noticed in published papers. These are: the Mere hoard (2) (Mattingly 1934), and from a 'hoard' in Chesters Museum (Milne 1933, pl.10, 15).

The sub-groups can now be described. All of these coins fall into the size range 12 mm - 15 mm. They are all illustrated in figure 12:6.

A. Groups using the ewer reverse (figure 12:6)

A1. The reverse is a delicate, square-shouldered ewer, with long neck, large mouth and spiral handle. The legend is a series of vertical and diagonal dashes set inside the border. The obverse is mainly the 'classic' V-shaped neck with pointed

chin and nose.

Examples: Verulamium, Paternoster Row hoard (2), Canterbury (2), Frilford, Mere hoard, Colchester.

One example from Paternoster Row carried the Invictus reverse. It is included in this group because it shares an obverse die with the Verulamium example. This association serves to prove the overall degree of cohesion in the overall group and between the two reverses.

A2. In comparison with group A1, the ewer is more robust and dominates the flan. The shoulder of the ewer is rounded this time. If any trace of legend is visible it will again be dashes. The neck of the obverse portrait may be square, rather than V-shaped.

Examples: Verulamium (2), Chichester, Woodeaton, Richborough (2), Goring-on-Sea hoard, Silchester, London, Colliton Park, Cirencester.

A3. The reverse carries a poorer, small, ewer. It is surrounded by a solid border. It is a much weaker engraving than the two previous varieties. The obverse is variable in quality but may have the 'classic' V-shaped neck.

Examples: Gorhambury (2), Verulamium.

B. Groups using the Invictus reverse (figure 12:6)

B1. The reverse engraving of Invictus is delicately engraved, resembling the neat engravings seen in the Lightwood and Calverton hoard examples. The obverse engraving is the 'classic' V-shaped neck with pointed chin and nose, as seen in group A1.

Examples: Richborough (3).

B2. The reverse engraving of Invictus is bolder, larger and simpler than in group B1. The obverse portrait is cruder than that used in groups B1 and A1, with simpler lines and with stylisation creeping in. Necks still tend towards the V-shape.
Examples: Wanborough, Chipping Norton, Chichester, Richborough (2), Verulamium.

B3. Reverses show a wide degree of variation but are mainly based on the Invictus figure. Obverses show a delicate portrait, with thin face. The facial shape is crescent-like, with a neat, thin, nose. The chin is not deep and carries a beard comprised of lumps. The neck is seldom clear but may be V-shaped. The obverse engraving is surrounded by a dotted border.
Examples: Verulamium (4), Silchester (3), Colchester, the Entrains hoard from Gaul (see chapter 11).

B4. The obverse engravings are almost identical to one or two examples in group A1 but have had to be considered separately because of their reverses. These reverses are variable, ranging from almost abstract to the more common Invictus figure. Obverse portraits are very delicate, with chiselled, pointed, features. Necks tend to be obscured but are square when recognisable.
Examples: Verulamium (4), Gorhambury, Mere hoard.

Two of the Verulamium examples share an obverse die and are very similar to a portrait from Paternoster Row, present in group A1.

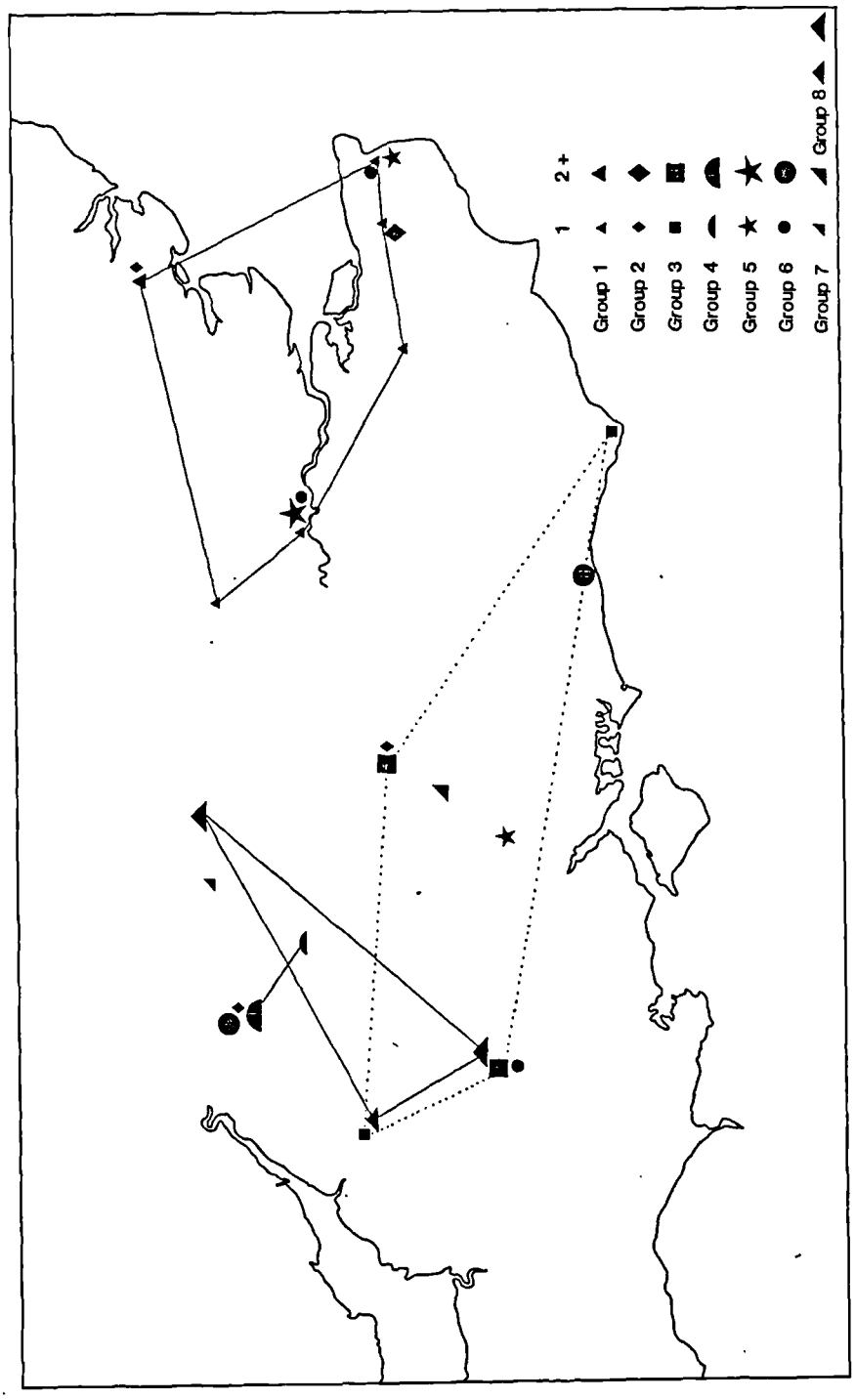


Fig.12:1 Distribution of style-group coins

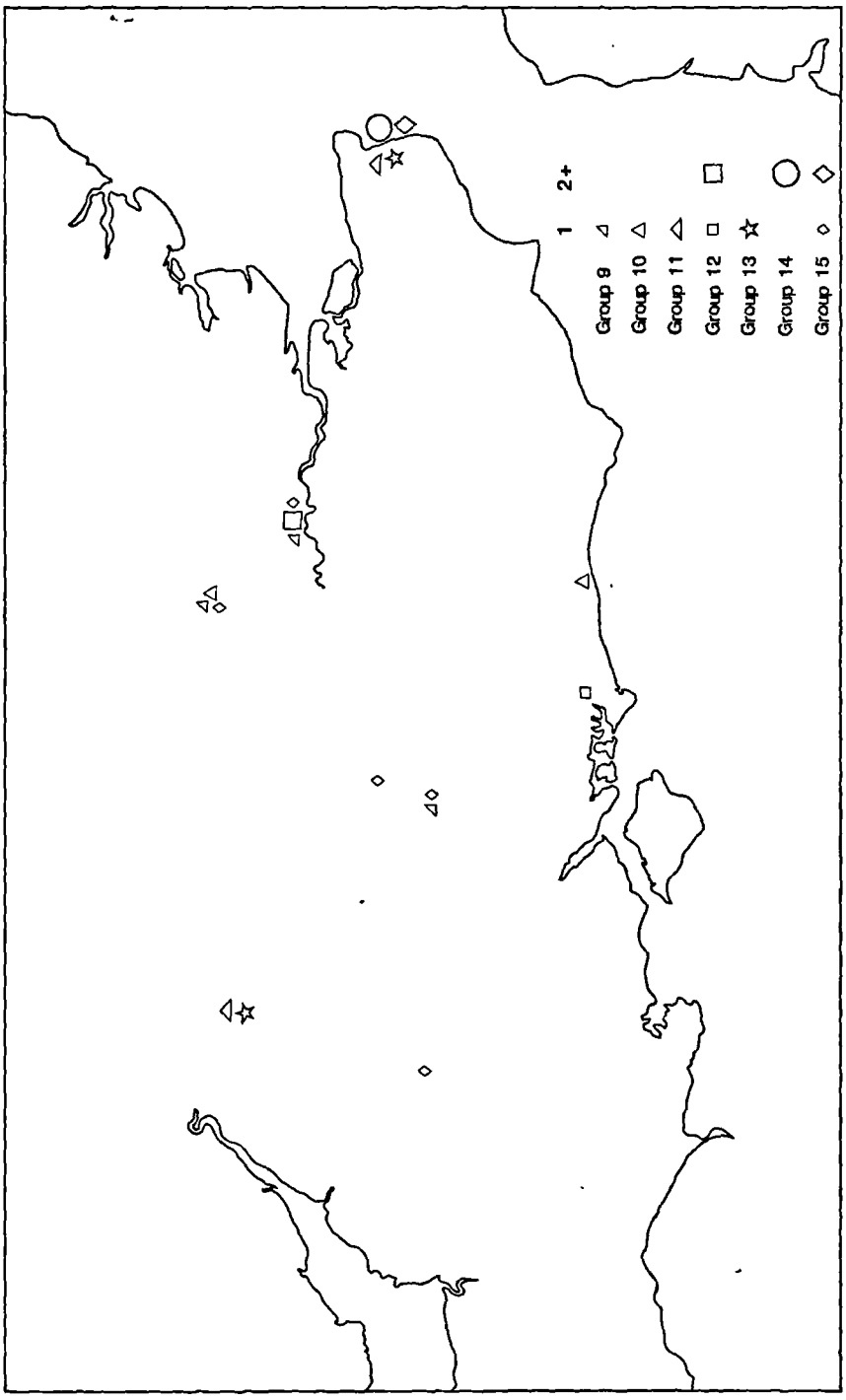


Fig.12:2 Distribution of style-group coins

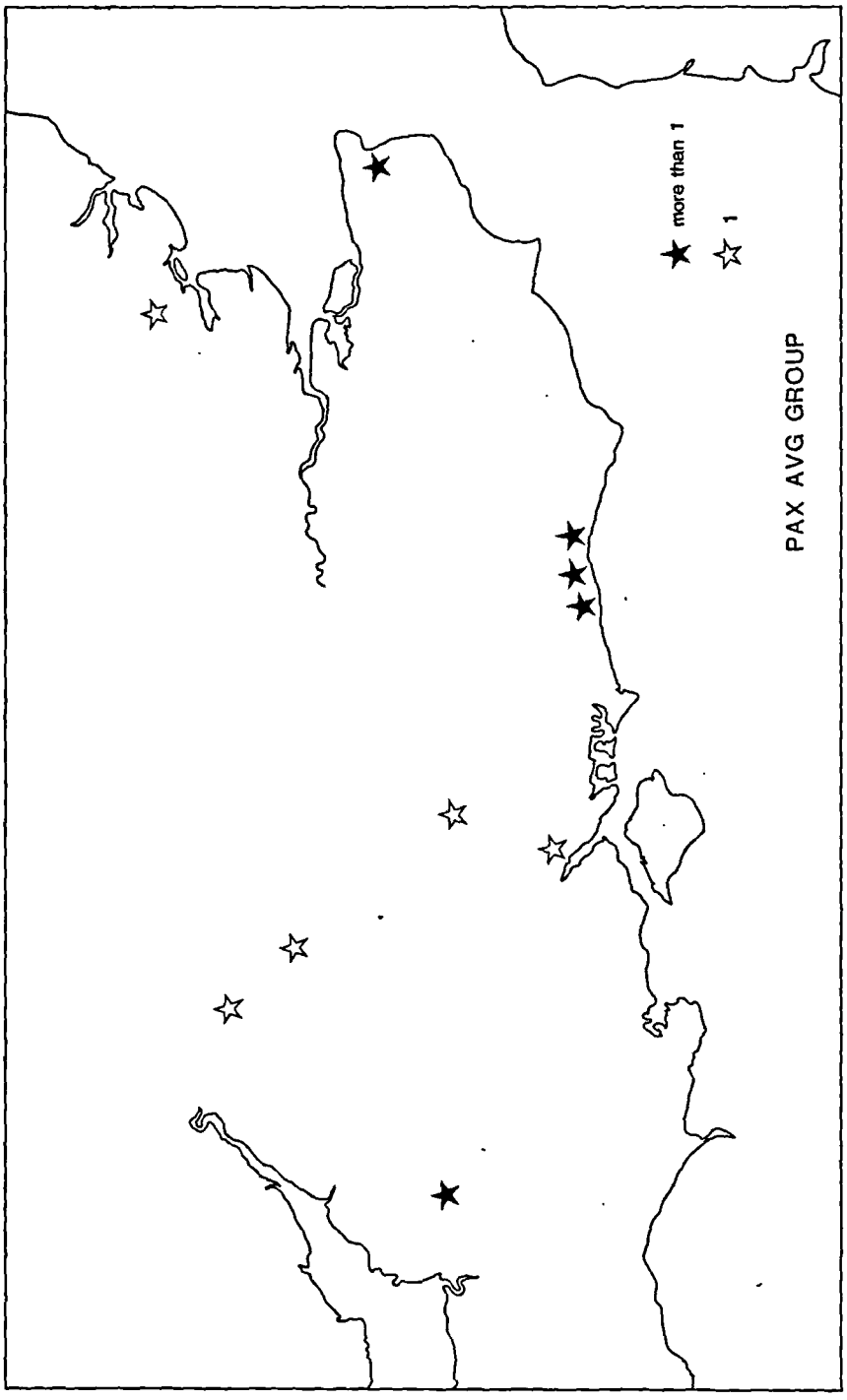


Fig.12:3 Distribution of PAX AVG group coins

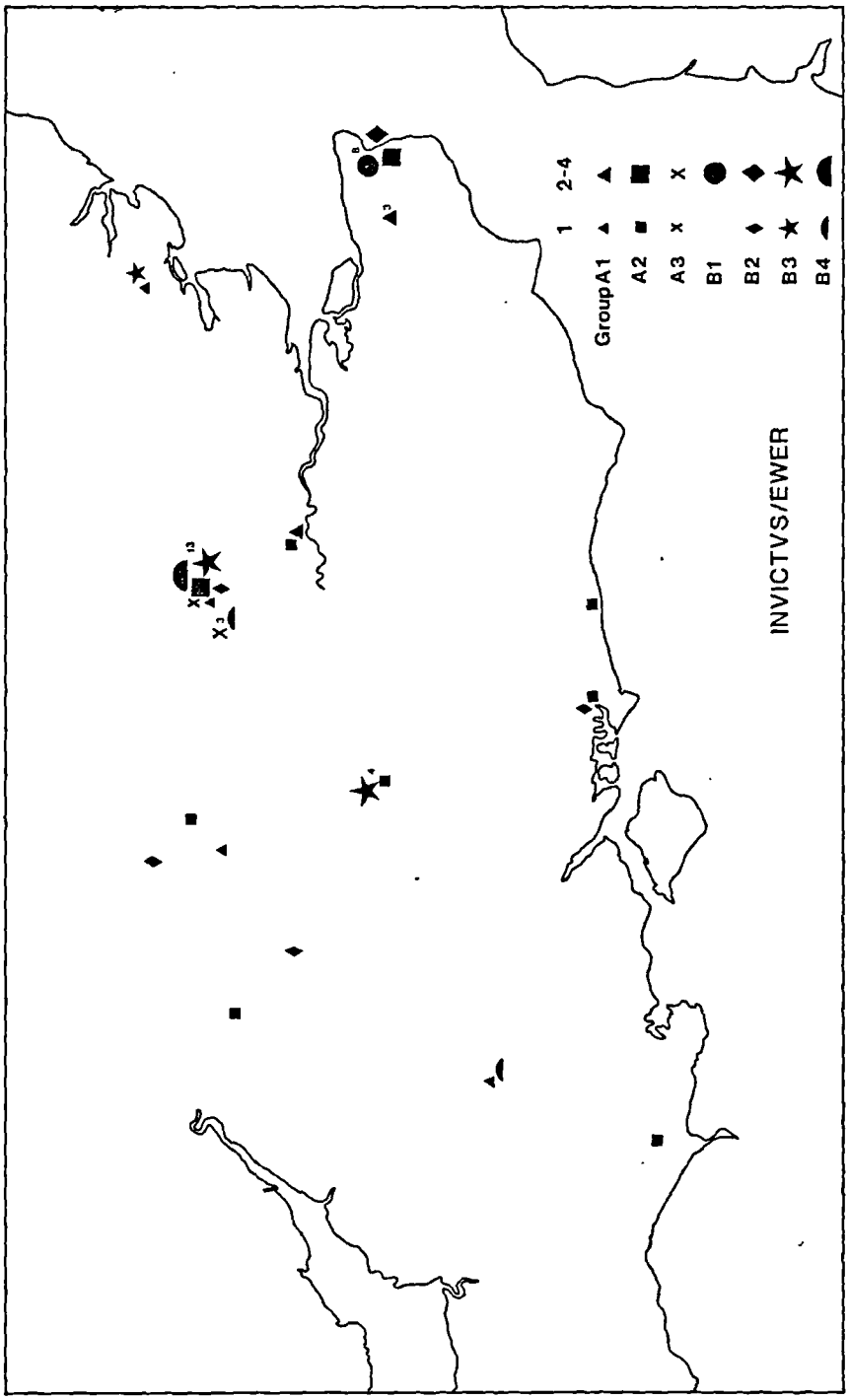


Fig.12:4 Distribution of INVICTUS/ewer group coins

Groups A1 and B1 are closest to the original types recognised by Mattingly. Other groups described above show varying degrees of departure from the Midlands forms. It is considered likely that the Calverton and Lightwood hoard examples (Mattingly 1961; 1963) preceded most of the examples described above. Groups A1, B1 and B2 would almost certainly have been earlier, with their more uniform engravings.

It is interesting to note that all forms carry the portrait of a bearded emperor on the obverse, although the ewer (sacrificial implements) should be coupled with Tetricus II. A degree of cohesion is encountered within the group as a whole, with the general obverse form and with the two reverse types. Although reverses may show some departure from the two types, new types tend to be stylised derivations resulting from successive copying.

The distributions of the examples from each sub-group have been listed in each group above. They have also been mapped in figure 12:4. This figure does imply some geographical clustering within the study area. This will be discussed further, below.

Links discovered with other Mattingly groups

Although the Pax Aug group and the Invictus/ewer group were the most important of the groups discovered by Mattingly, many other die-groups were recognised by him during the course of his hoard studies. Additional examples of these types have been discovered during the course of this work.

Richborough = Goring-on-Sea hoard

Published group: Mattingly 1967b, Plate 1, 2-3. There are nineteen of these obverse/reverse die-links in the Sussex

hoard.

New examples: Two were found at Richborough (Davies 1982b, 24 and chapter 10, above).

Richborough = Goring-on-Sea hoard

Published groups: Mattingly 1967b, Plate 1, 5-7. Eight coins were present at Goring, of this type.

New example: A single example, of very similar engraving, was found at Richborough (Davies 1982b, 24 and chapter 10, above).

Richborough = Calverton hoard

Published types: Mattingly 1960, Plate 1, 14.

New example: A single reverse, close style-link, was found at Richborough (Davies 1982b, 24 and chapter 10, above).

OTHER GROUPS

Proban copies

Copies of issues of the emperor Probus (276-82) are not common. A number have previously been found and referred to (Boon 1967; 1974a). These coins are listed here in order to summarise the characteristics of this type of copy. They are not included as a cohesive die- or style-group, although certain traits do recur between some examples.

Proban copies tend to be of small module, around 12 mm - 13 mm. They have different reverses but tend to carry the letters PROB... on the obverse.

Examples discovered during the study: Canterbury, Mere hoard, Meare Heath hoard (2).

Man standing in a 'trough' (figure 12:5)

This very unusual derivation was discussed during the course of the section concerning the Verulamium coins. All examples of this type exhibit different styles and no die-links have been found. This is a more puzzling form because there is no close prototype from which this coin was copied. It is so odd that it could be expected to be the invention of a single workshop. However, the diversity of styles suggests that this was not the case. It represents the result of successive copying from copies and the process of derivation considered to have been the most likely is explained below.

The 'trough', or base, in which the simplified pin figure stands, bears resemblance to the Pietas, sacrificial implements base, as used in the coinage of Tetricus II (Elmer 773) - see figure 12:5, form A. After a period of time, this basic prototype was simplified by many barbarous radiate engravers to a single ewer, to the exclusion of the subsidiary implements (figure 12:5, form B). A parallel degree of simplification also omitted the subsidiary implements but left the base, as shown in figure 12:5, form C. Many engravers in Britain clearly had little knowledge of the original, official, coinage. It would have been easy for them to mistake the ewer, as shown in form C, for a figure and to show subsequent engravings as a figure standing on the simplified implements base (figure 12:5, form D). This is not the only possible interpretation of this form. Professor Mattingly has suggested that it may be a derivative of Virtus Augg (as Elmer 780) with the spear and shield having been altered (pers.comm.).

Examples encountered: Richborough (2), Verulamium (3), Paternoster Row hoard.

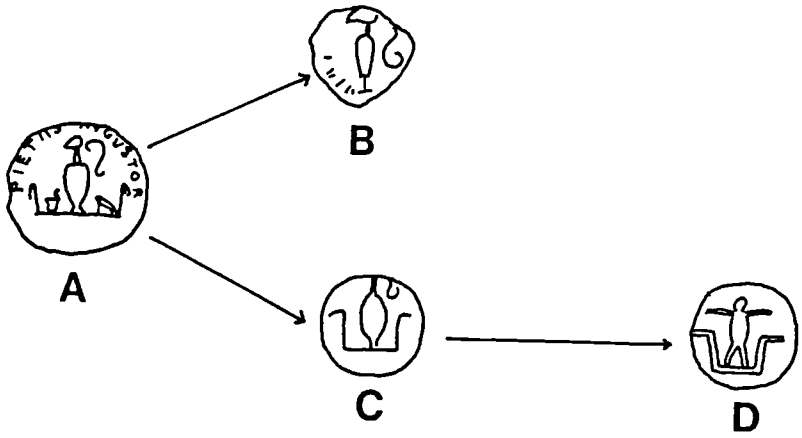
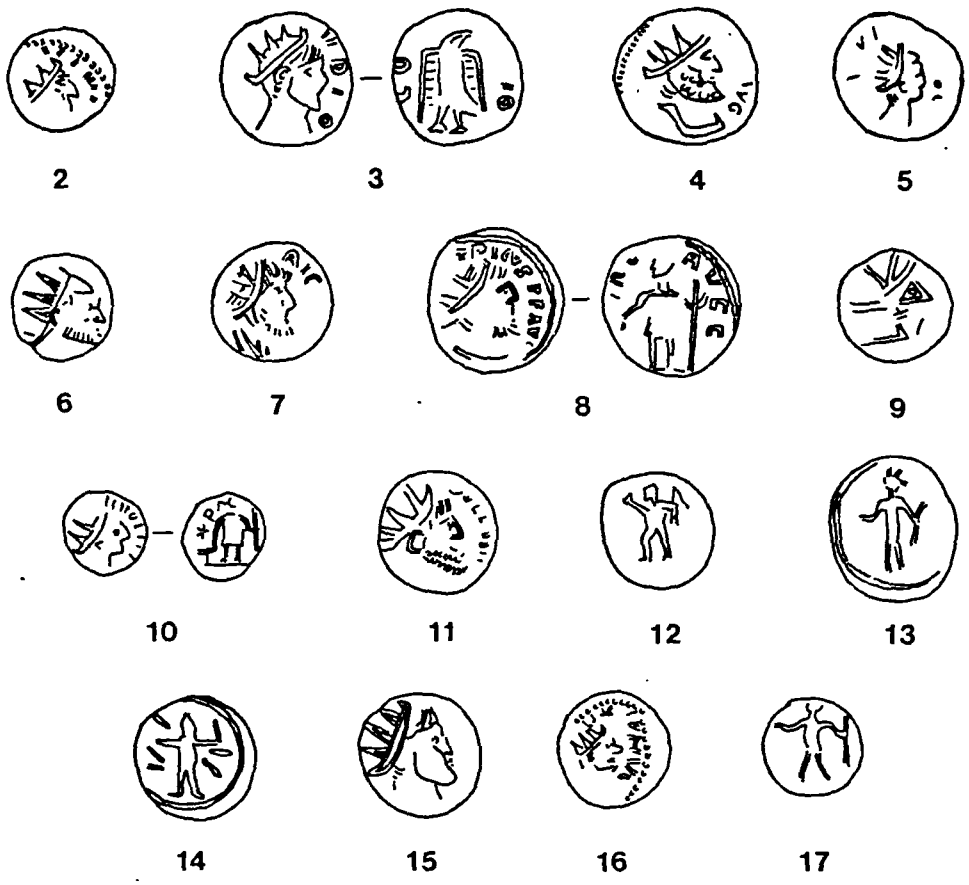


Fig.12:5 Derivation of 'figure in trough' reverse. Scale 1:1



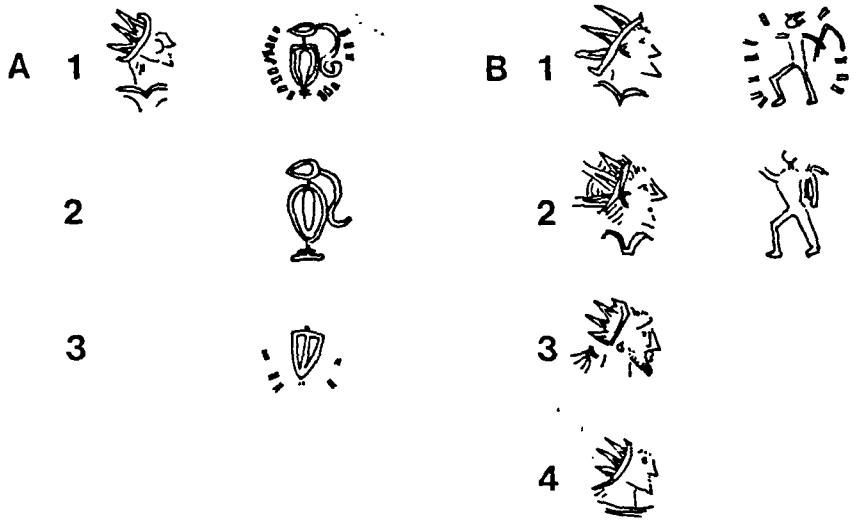


Fig.12:6 Style-group coin types. Scale 1:1

Imitations with apparent 'mint marks'

Barbarous radiates which appear to carry 'mint marks' have been noted during the course of preceding chapters. Such coins are different in appearance and no die-links of this kind have yet been found. They appear to carry these reverse markings for different reasons. In some cases, the legend has erroneously been continued into the exergue and reflects inefficient copying. Others do, however, appear to imitate the mint marks of official coins.

It is considered that it is important to document this unusual form alongside the other groups, in order that further order can be imposed on the study. The number of coins in this category is small at present.

Examples: Richborough (3).

DIE-LINKED GROUPS

The Meare Heath hoard groups

The important, large, die-groups present in the Meare Heath hoard from Somerset have been described in chapter 6. Seven major groups were established, based on obverse die-links. These have been fully illustrated in chapter 6 and, now, elsewhere (Davies 1986). In summary, group A contained 71 coins, group B had 24 coins, group C - 3, group D - 4, group E - 3, group F - 5 and group G - 33.

These sizeable die-groups have been further strengthened by the discovery of additional die-links, subsequently found in the vicinity of Meare Heath, reinforcing these major groups (Davies, 1987a).

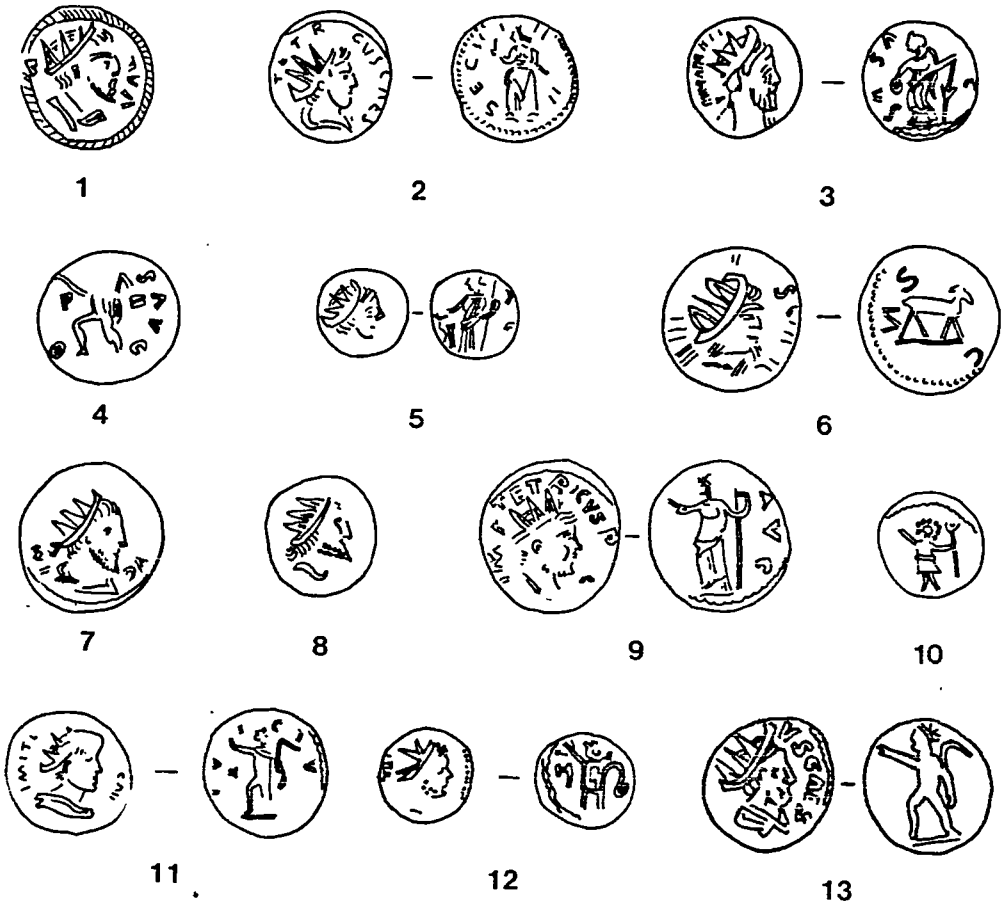


Fig.12:7 Die-group coin types. Scale 1:1

The Moneybury Hill, Pitstone (Bucks) group.

(Chapter 8 and Davies 1982c)

Description: Diameter of about 18 mm. Sparse lettering on each face, comprising the letters V and A. A pronounced milled border around each face. The obverse portrait of Victorinus accentuates the hooked nose and pointed beard. The engraving shows attention to detail.

Links: 2 obverse die-links in this hoard. 2 close style-links also present.

Illustration - figure 12:7, 1.

Brighton Museum group. (Chapter 9)

Description: Diameter very variable, between 15 mm and 19 mm. A good engraving of Tetricus II. An inverted reverse type is used, which looks similar to Pax Aug.

Links: 3 obverse die-links, in Brighton Museum (unprovenanced). 2 share reverse dies.

Illustration - figure 12:7, 2.

St Mard hoard (Luxembourg) group. (Chapter 11)

Description: A well-engraved portrait of Tetricus I or Tetricus II. The reverse is the Laetitia figure but is combined with the legend Salus Augg. The group has an eastern distribution in England.

Links: 1 reverse die-link in each of the St Mard I and St Mard II hoards (Luxembourg).

1 reverse die-link (and very close Tetricus I obverse) from Neatham.

1 reverse die-link (and very close Tetricus I obverse) from the Paternoster Row hoard.

1 further close style-link from the Paternoster Row

hoard.

1 very close style-link from Colchester, Culver Street.

Illustration: figure 12:7, 3.

Neatham - Chichester group. (Chapter 9)

Description: The Oriens Aug reverse type, as used by Postumus. There is a 'P' in the field, left. The diameters are 17 mm and 21 mm. Part of the reverse die (across the body trunk and shoulder of the figure) is blurred.

Links: 1 reverse die-link at Neatham and 1 at Chichester.

Illustrations: figure 12:7, 4.

Colliton Park (Dorset) group. (Chapter 6)

Description: A diameter of 12 mm. A good obverse engraving of Tetricus II. The reverse has an engraving of Salus. The die impression is well placed on the flan.

Links: 5 obverse/reverse die-links at Colliton Park.

Illustration: figure 12:7, 5.

Colliton Park - Gaul group. (Chapter 6)

Description: A diameter of 16 mm - 20 mm. The obverse is a crude copy of Gallienus with a squashed nose and a straggly beard. The reverse is a doe or stag walking right.

Links: Obverse and reverse die-links at Colliton Park and in the Bibliotheque Nationale collection, Paris (unprovenanced).

Illustration: figure 12:7, 6.

Bitterne - Notre Dame hoard. (Chapter 7)

Description: About 20 mm diameter. The obverse has a portrait of Tetricus I with fine chiselled features and a thin pointed

beard.

Links: Obverse die-link between Bitterne and the Parvis, Notre Dame, hoard (Gaul). A very similar obverse is present at Winchester (Plate 7:2, 23). The Bitterne coin carries a spider-like figure on the reverse, carrying a staff left, surrounded by a dashed legend. There is a very close style-link present at Colliton Park (Dorset) (Plate 6:8, 6).

Illustration - figure 12:7, 7. Giard 1983, Plate 2, 120.

Cirencester = Colchester Gallienus group.

(Chapter 10 and Davies 1987b)

Description: A crude obverse engraving, with angular nose and chin and dotted beard.

Links: The obverse die is shared by coins found at Colchester museum and Cirencester.

Illustration: figure 12:7, 8.

Richborough = Silchester group. (Chapter 10)

Description: 20 mm diameter. The obverse portrait of Tetricus I has a large square jaw. The reverse figure of Pax is well-engraved.

Links: The obverses and reverses die-link between both examples.

Illustration: figure 12:7, 9.

Richborough minim group. (Chapter 10 and Davies 1982b)

Description: A 13 mm - 14 mm diameter. A small male figure on the reverse wears a dotted halo.

Links: There are two coins sharing the reverse die at Richborough.

Illustration: figure 12:7, 10.

Tetricus II/Invictus group. (Chapter 10)

Description: A 17 mm diameter. The obverse carries a legend of Victorinus but a clean-shaven portrait of Tetricus II. The reverse engraving represents Invictus.

Links: One coin was recorded from the Farley Heath temple, Surrey. Another is illustrated in Sutherland 1937, Plate 5, 1. This is recorded as another unprovenanced example.

Illustration: figure 12:7, 11.

Woodeaton (Oxfordshire) group. (Chapter 8)

Description: A 13 mm diameter. The obverse carries a dotted border. The portrait has thin relief; possibly clean-shaven features, with dotted hair over the forehead. It is combined with two reverse types. One uses a square-bodied figure, left. The other uses a thinner figure, whose lower half only remains. Two die-linked obverses join with two of each of the reverses. Three close style-links with the former reverse type are present at Richborough; one coming from the 1931 hoard.

Illustration: figure 12:7, 12.

Hollingbourne = La Vineuse group. (Chapter 11)

Description: A clear portrait of Tetricus II, surrounded by bold lettering. The reverse engraving depicts Invictus. The diameter is 19 mm.

Links: One example in the Hollingbourne hoard shares obverse and reverse dies with another from the French La Vineuse hoard.

Illustration: figure 12:7, 13.

The coin groups described in this chapter have been selected from a greater number that were outlined in the preceding

chapters, in order to form the basis of a reference work. Some of the more unusual types were chosen because they are memorable. These style groups are accompanied by die-groups and by type-groups. Other die- and style-links between Britain and the continent have been presented in chapter 11 and previously established groups were described and illustrated in chapter 4.

Some of these groups presented in chapters 6-10 will remain contentious. It is necessary for still more coins from the same part of England to be studied before many of these groupings can be confirmed or rejected. However, it has been considered necessary to include these groupings because real progress cannot be achieved if this is continually shied away from.

Some of the groups described above will form a nucleus of types, which will become recognised by those who regularly handle barbarous radiates. Some major groups have been shown to be ubiquitous, while others are very localised. Sub-groups have been shown to be present within the Invictus/ewer group. Figure 12:4 shows no overall regionalisation among these particular sub-groups. It would appear that they represent successive degrees of simplification by engravers over time, rather than regional engravers copying the original group simultaneously.

The cluster of three Sussex hoards containing Invictus/ewer group coins has been well referred to at numerous junctures in previous chapters. Other than this, it can be seen from figure 12:4 that there are two main concentrations of these coins, as site finds. Sixteen examples have been recorded in the Verulamium area and eleven in east Kent. Verulamium has also provided further examples in the hoard found there in 1960

(Mattingly 1971). It is therefore very likely that these coins were manufactured in the environs of that site. With regard to the Kent examples, most originate from Richborough. It may be the case that examples reached this site because of its position as a port and on a major route to the continent. This site has produced a huge collection of Roman coins generally and the extensive style- and die-links between there and across southern Britain have been described in chapter 10. In general, the number of examples encountered reinforce H.B.Mattingly's observation that these coins travelled widely within the province.

Examples of the Pax Aug group turn up quite regularly but are less common than examples of the previous group. There is no observed regional patterning (figure 12:3) and no stylistic sub-groups have been identified here. There was a degree of stylistic variation within the original group identified by Professor Mattingly but the new examples recorded adhere well to those types.

Seventeen style-groups have been recorded here and mapped. Among these, the Spes group (group 1) is tightly distributed in the Thames area, as shown in figure 12:1. Other style-groups also show regional character. Groups 4 and 8 each show a west country distribution. Group 2 is basically a central/eastern group, although there is a possible member at Cirencester. Group 3 shows a central/western/southern distribution. Some groups are more widespread, such as group 15 (although this is not a true style-group). Others are more localised, such as groups 16 and 17.

The inclusion here of 'type groups', such as Proban copies, is an essential complement towards the construction of a

reference work. It is only by cataloguing these types that order will be imposed, enabling a full understanding of barbarous radiate manufacture and distribution.

The problem of isolating the sources of production

The information presented in this chapter represents an initial attempt to interpret patterns within the die- and style-link data accumulated to date. This work is still at an early stage and the bare bones of the picture presented here need continuous supplementation before the patterns become less ambiguous. However, this data may help towards an understanding of where, and on what frequency, barbarous radiates were produced. There are many problems involved in attempting to isolate the sources of production.

In the past, the locations of possible mints have been suggested from evidence of die-linking between hoard coins. H.B.Mattingly suggested that mints were located in the Midlands and in Sussex, on the basis of the relative proportion of die-linked coins present in each case (Mattingly 1963 and 1964). Unfortunately, when hoards are used in this way, we cannot be certain just how far the hoard had travelled prior to its deposition. It may be that a hoard full of die-linked imitations, for example the Lime Street hoard from London (Merrifield 1955), was compiled from coins struck in northern England and was subsequently carried south by a traveller, who buried the group for safety on his arrival in the Provincial capital. Site finds are more useful in this respect. It is more likely that a number of die- or close style-linked barbarous radiates from sites in one area have remained near to the point of manufacture. It is unfortunate, for this reason, that die-links between site finds are so scarce.

How then is it possible to make progress with the question of irregular mint location? Firstly, it must be stressed that an unknown proportion of those barbarous radiates recovered were struck on the continent. These are likely to have been the earliest copies - the larger and better examples, closer in appearance to regular issues; such as the St Mard die-linked coin group described above. Secondly, it can be seen from figures 12:1 to 12:4, and particularly from figures 12:1 and 12:4, that there is a degree of regional grouping recognisable for some groups. Such regional groupings include group 1, in the east; group 3, in the south west; and groups 4 and 8, with a western distribution. In figure 12:4 the Invictus/ewer group as a whole is seen to cluster around the site of Verulamium and, to a lesser extent, in east Kent. In the west, the Meare Heath hoard has provided evidence of a local mint (chapter 6). Although this is based on hoard evidence, the two more recent discoveries of finds which die-link to Meare Heath coins, both within ten miles of the original findspot, add strength to this deduction.

Would it be possible to suggest the position of mints by bisecting lines of die- and style-linking, with the possible mint location at the centre of each distribution? This idea is possible and in the cases of figures 12:1 and 12:4, mints could be postulated in the vicinity of Devizes, Winchester, Brentwood and Verulamium, on that basis. Unfortunately, the number of coins upon which this would be based is just a small proportion of those coins studied. Conclusions such as this, based upon such a small proportion, could not be upheld. This is not to undermine the validity of the results shown above but they must be supplemented considerably before such conclusions can be

substantiated. If this evidence cannot yet be used to positively point to specific mint locations, then some degree of deduction must be applied. The whole range of possibilities must be considered but first the trends in the evidence can be summarised.

Barbarous radiates were very numerous. The proportion of die-links within this coinage is low. It was very diverse in appearance - in size, shape and weight. There is some evidence for regionality within some die- and style-groups. No dies have yet been discovered, despite the huge number of dies originally used. It is necessary to pinpoint a system which can accommodate these observations.

Is it possible that none of the barbarous radiate coinage was in fact struck in Britain and that it all originated on the continent? This is not a viable option. Archaeological evidence does exist which proves that some of this coin was struck in Britain. This evidence will be summarised in chapter 13. Also, it has been seen in chapter 11 that differences exist within the coinage of both provinces, with some separate developments seen on either side of the English Channel.

Is it possible that the coinage produced in Britain came from a single source? This can again be rejected from the evidence to hand. Firstly, we would expect the coinage from a single mint to show some standardisation, which did not exist. The profusion of styles, coin sizes, weight differences and overall variation in appearance make this proposition untenable.

If a single source is to be rejected, would a few central locations, such as at some, or all, of the civitas capitals, be a possibility? Such a suggestion would imply major organisation and probable supervision by the authorities, which

again seems unlikely from the evidence to hand. The degree of diversity in coin weights and appearance does not imply any supervision. Also, some patterning of the coinage in relation to the civitates would be expected; perhaps along the lines of the distribution of tribal Celtic coinages (for examples see Cunliffe 1981, figures 39-69).

The evidence presented in chapters 6-10 seems to reflect a situation in which many mints existed, right across the south of England. Although some recorded coin groups seem to be restricted to specific areas, no single mints appear to have provided the coin for each area. At all major sites there is some evidence for local production and many mints would have existed. Numerous mints would have existed within each civitas, right across the province. A possible parallel might be that of the frequency of late Saxon mints. At that time, for example, Canterbury had seven moneyers, Rochester had three, London - eight, Winchester - six, Lewes - two, Hastings - one, Chichester - one, Southampton - two, Wareham - one, Dorchester - one, Exeter - two and Shaftesbury two (Dudley 1978). There were eight mints (nine moneyers) operating in Sussex alone. However, there was a centralised authority involved in that system. The number of moneyers allowed for each burgh was decided on economic grounds and control was achieved by the issuing of dies to moneyers, from approved die-cutting centres (Dudley 1978). Once again, such central control is not evidenced in barbarous radiates and a still looser system must be envisaged.

Having rejected these controlled scenarios, could producers have operated in every village and hamlet? In such a situation there could have been no limit on production. It would have

been very difficult for the central authorities to suppress and the result would be huge amounts of very diverse looking coins, with few die-links. It is this loose, unsupervised, system which most closely fits the recorded coin evidence. The overall concept is one of many small untrained producers located in smaller villages, away from the towns and their authorities. At this level, coin could be struck by workers on a fireside basis, unsupervised. There was little risk of being identified, as the only equipment needed was a pair of dies, which could be easily hidden in time of threat. This may explain why we have been left so little evidence for manufacture. It may be that this production was at first tolerated because the products bore no close resemblance to official coin. The production of these irregular coins must then have enjoyed widespread public acceptance and encouragement, to be produced within the community and to be employed as a medium of exchange during a time of official coin shortage.

This picture can be developed further. First, two other sources of information are available for study. These will be dealt with in the next two chapters. Discussion of the overall picture will be resumed in chapter 15, when all categories of evidence studied will be drawn upon.

Chapter 13. The contribution from the study of hoards

Chapters 6 to 12 were concerned with the results of a study of barbarous radiates from site collections, at first hand. During the course of that work, some hoards were discussed (particularly in chapters 6, 9, 10 and 11) but the emphasis was on site finds. The initial results of the study of site finds have now been presented and although some patterns and trends have been documented, this extensive study did not result in the establishment of major mint groupings and identification of mint locations, as had been hoped. The results will be analysed more fully in later chapters. However, it has been considered worthwhile to supplement the findings with a fresh look at previously published data; in the form of published hoard reports. An overview of the pattern of hoarding during the 270's and 280's will be useful for a closer understanding of patterns recorded from site finds.

These years were the most prolific period of coin hoarding for the whole of Roman Britain (Robertson 1974, 27). Over one hundred hoards have been recorded which end with the Tetrici alone. These hoards are distributed across the whole of Britain. Approximately 120 hoards which contain barbarous radiates, in differing proportions, have been recorded from this country. For the purposes of this study, all hoards which contain barbarous radiates, in any quantity, have been recorded. Not all of these hoards belong to the period being studied. Some were buried during the rule of Carausius and Allectus (AD 287-96) while others were buried as late as the mid-fourth century. The published details of others are very vague and make even approximate dating hazardous. However, the majority belong to the period from AD 270 to the mid-280's.

These hoards vary greatly in size. The published reports also vary in their usefulness. Some such papers which date from the nineteenth century do not supply a full coin list and are selective in their descriptions. Another problem is that these hoards were studied by many different people, of very different abilities. If a single collection was studied today by two different coin specialists, they would almost certainly disagree on the number of irregular coins present. Therefore, absolute numbers of coin types present within the different hoards must be compared with caution. Any publication over twenty years old must be very carefully evaluated in the light of current opinion, before being compared closely with more recently published hoards. Unfortunately several of those used here date from as long ago as the late-nineteenth century.

In this chapter, it is not intended to re-study specific hoards or to criticise the work of earlier writers. The intention is to summarise the information from these numerous sources - despite the problems of widely differing quality of information provided. Such an analysis of these hoards has not been made before and there has been no prior attempt to define patterning within this data. This appears to be a potentially rich source of comparative information with which to complement the study of site finds.

These hoards may have been buried in response to different stimuli. Some may relate to unrest and unpheaval. Others may have been buried following Aurelian's reform of the currency (Mattingly 1963, 26). It is possible that a proportion of the hoards would have been buried close to the point of manufacture of irregular coins, as in the case of the deposit beneath a hut floor at Coygan Camp (Boon 1967). Such instances

must be decided from the contents and context of a particular hoard. If the deposit contains a high proportion of die-linked imitations, it is clear that the group has come straight from the 'mint', as such die-groups were quickly separated once in circulation (from the evidence shown in preceding chapters). However, the 'mint' in such a case need not have been nearby, and this must be decided from the circumstances of the find. Such information can allow us to deduce the main, general, areas of irregular coin production.

The compilation of the data

A list of sixty-two hoards containing barbarous radiates was compiled by P.V.Hill (Hill 1949, 25-31). Some of those listed have been removed and the remainder re-allocated to their revised counties. A search of numismatic, county and archaeological journals was then undertaken, which has resulted in the listing of 116 barbarous radiate hoards from England, Wales and Scotland. These have been summarised on a map, shown in figure 13:1.

There is no obvious clustering apparent from the distribution of hoards shown in figure 13:1. The overall pattern reflects the inhabited lowland zone of Roman Britain. The majority are found south-east of a line drawn between the Rivers Humber and Severn. Just one has been recorded north of Hadrian's Wall, a small number in north Wales and Anglesey and rather more in southern Wales. All of the hoards have been listed, by county, in appendix 1, at the end of this chapter.

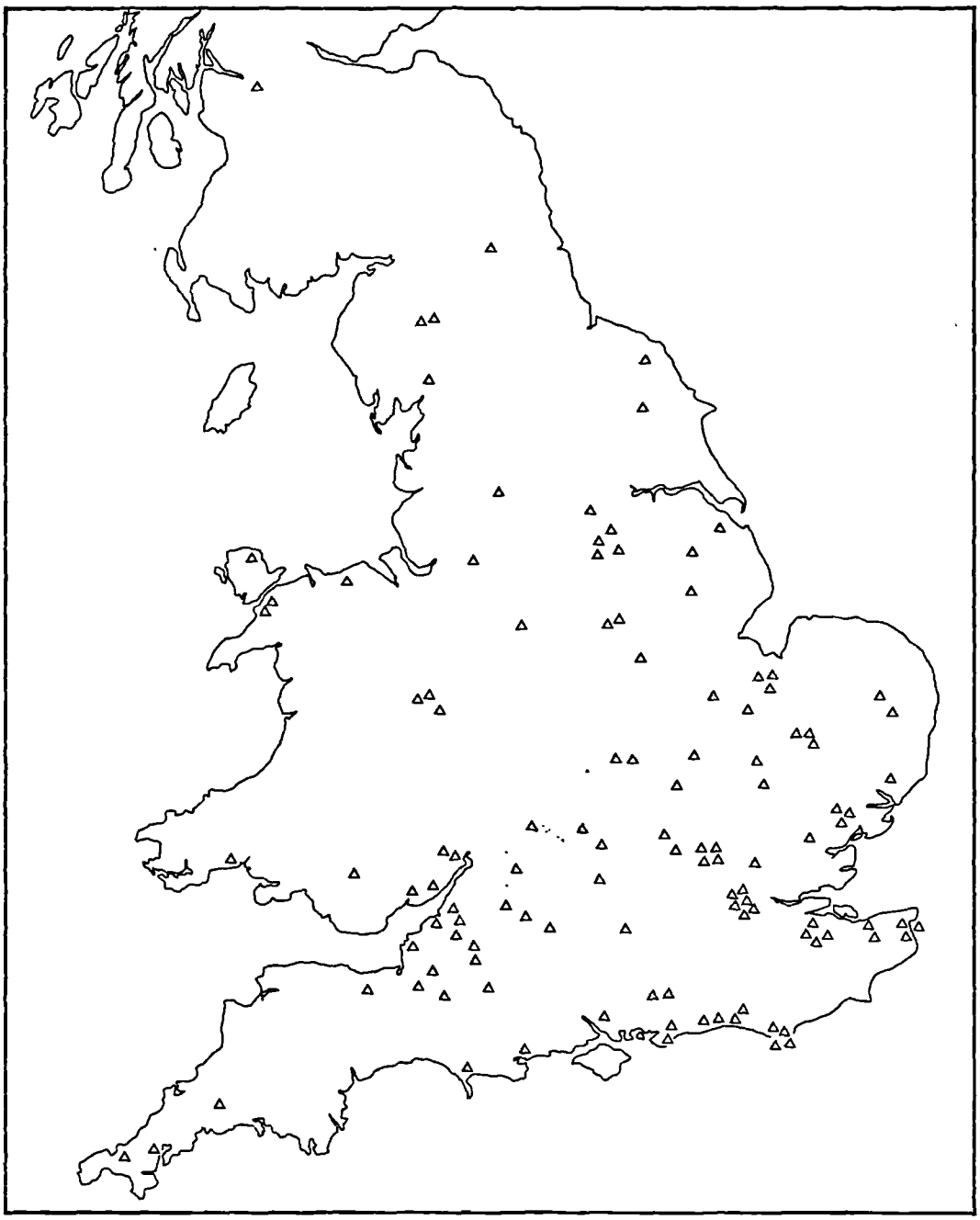


Fig.13:1 Map of all barbarous radiate hoards

Unreliable hoards

Twenty-two of the hoards have been considered too unreliable for accurate analysis. In most cases, the written report does not include full details or it is ambiguous. This may be because part of the hoard had been dispersed before it could be properly recorded. These hoards have been listed in appendix 2 and the precise reasons for their removal are provided in each case.

Fourth-century hoards

A second category of hoards has been removed for separate consideration. These are the fourth-century hoards containing barbarous radiates. Twenty-three of these are listed in appendix 2 and are mapped in figure 13:2. It is well known that radiate coins of the late-third century occur in small numbers in most mid-fourth-century hoards (Burnett 1979, 92). Barbarous radiates are found among the mass of small bronzes in these deposits. The number in almost all cases is in single figures. The consistent, very low, percentage of these coins in so many hoards, as well as in fourth-century contexts on sites, is a clear indication of the survival of small numbers in circulation. This phenomenon reflects the initial profusion of barbarous radiates during the late-third century and shows the lack of discrimination shown by fourth-century citizens when using bronze coinage of roughly similar size and quality.

Hoards of Carausius and Allectus

Having removed two categories of hoard, there are seventy-two remaining which belong to the third century. Eleven of these terminate with coins of Carausius or Allectus (AD 287-96) and

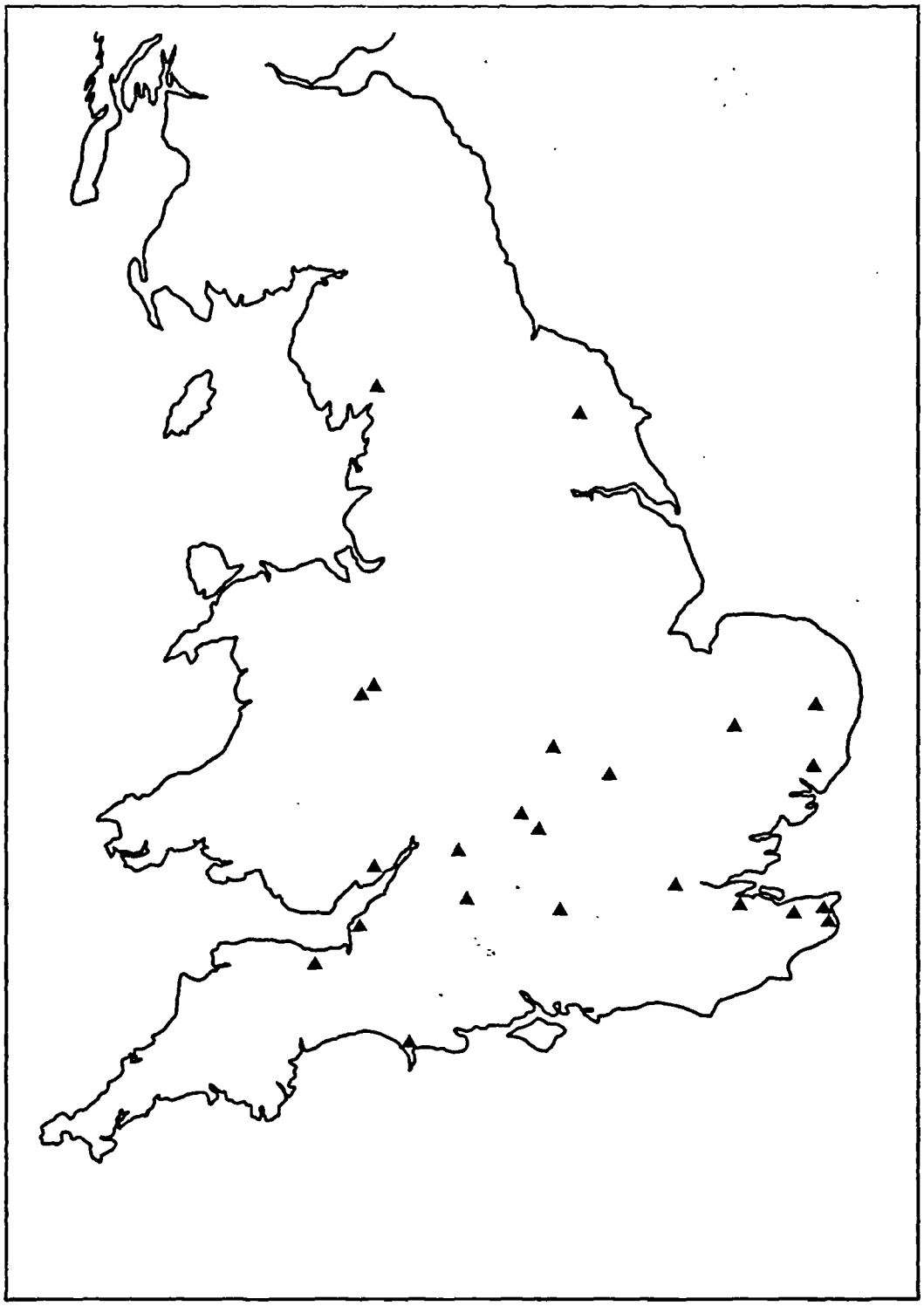


Fig.13:2 Map of fourth century hoards containing barbarous radiates

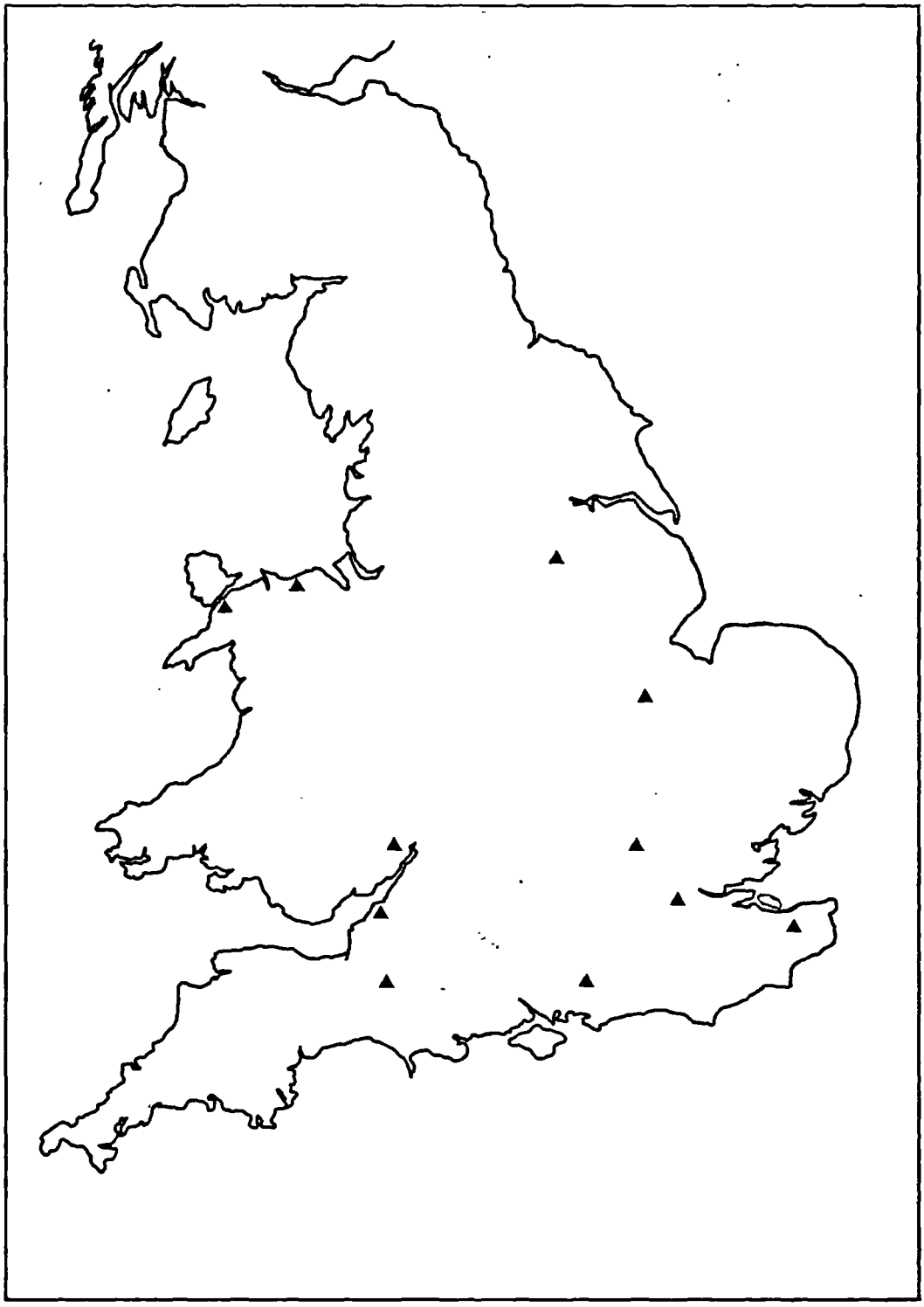


Fig.13:3 Map of British Empire hoards containing barbarous radiates

they have been listed in appendix 2. They are also mapped, in figure 13:3.

These hoards do not tend to be dominated by barbarous radiates and mainly contain a wide chronological spread of third-century coins. Their distribution shows a predominance of coastal locations.

Hoards comprising only barbarous radiates

Hoard numbers 64 (London, Lime Street) and 104 (Chichester) consist entirely of barbarous radiates. The first comprises several groups of die-linked coins, of large module, which may be the products of an irregular London mint (Merrifield 1955). The second comprises some extremely poor and crude types, again of large module. In the absence of regular coins, it is difficult to date these hoards closely and they are therefore categorised together.

Other third-century hoards

There are fifty-nine remaining hoards of third-century date. It is apparent that there are similarities in the composition between some of these. In fact, these hoards can be separated into two main groups. The first type comprises coins which date up to c. AD 276, early in Probus' reign. This group contains a long chronological spread of coins, with issues representing the whole third century, present. They tend to have a small percentage of barbarous radiates, which is generally less than 10% of the total. The barbarous radiates present have a large module, comparable with that of the regular coins present. Minims are absent from these hoards. The second group is very different. In these hoards, minims are present and barbarous radiates tend to be present in

greater proportions; frequently dominating the hoard. Coin blanks may also be present.

It is difficult to divide all hoards between the two groups with absolute precision, partly because some published reports do not give details about the sizes of imitations present. Also, some hoards allocated to the former group have higher than 10% imitations (Paternoster Row, Brighton and Moneybury Hill); while some allocated to the latter have relatively small proportions of irregular coins (Much Wenlock and Maltby). However, these groups can generally be separated, with only a small degree of uncertainty, in a few cases. The composition of these hoards is recorded in appendix 3.

Having separated the two hoard groups predominantly on the grounds of type and number of imitations present, it is noticeable that there are also chronological implications involved. The first group contains larger imitations, which have been argued to be the earliest barbarous radiates (Boon 1967). There is no evidence to date these hoards after the mid-270's AD. In contrast, the second group contains minims. These imitations of smaller module have been shown to represent the later phase of copying, from the mid-270's to the early 280's (Boon 1967). Hoarding was a continuous process and the hoards discussed here need not have been deposited in two distinct phases. However, the evidence cited does suggest that they represent earlier and later relative deposition. Although it is unwise to apply precise dating, in blanket fashion, to each group as a whole, they can at least be termed 'early' and 'late', in relation to each other. Twenty-six hoards have been classified as 'early' and twenty-nine, 'late'. In appendix 3, six others have been labelled 'possible early hoards' and four

'possible late hoards'. The recognition of these two categories of barbarous radiate hoards becomes particularly interesting when they are mapped.

Mapping the hoards

The hoards classified as early and possibly early in appendix 3 have been plotted on a map (figure 13:4). It is clear that all are restricted to the south and east of Britain, below a line between the Rivers Humber and Severn. The most westerly cases are Nettleton (Wiltshire) and Poole (Dorset). The hoards are spread right across the area, perhaps with a gap in north Cambridgeshire and south Lincolnshire.

The hoards classified as late and possibly late have been mapped in figure 13:5. Once again, strong patterning is apparent, which is in contrast to the former category. Seven of these are found in the south east. The other twenty-six are located outside the zone occupied by the early hoards. Apart from the seven exceptions, the two categories of hoard appear mutually exclusive. Late hoards are located in Wales, the south west and in northern England, above the imaginary Humber-Severn line.

In order to reinforce the concept of two zones, a grid has been superimposed at random on a map of all early and late hoards (figure 13:6). It is seen that in only five squares can both types be found together, although more than one hoard can be counted in fifteen of the squares. The late hoards occur in eighteen squares. The early hoards occur in fifteen squares. The patterning is strong and suggests that non-random factors accounted for the deposition of hoards in specific areas of Britain.

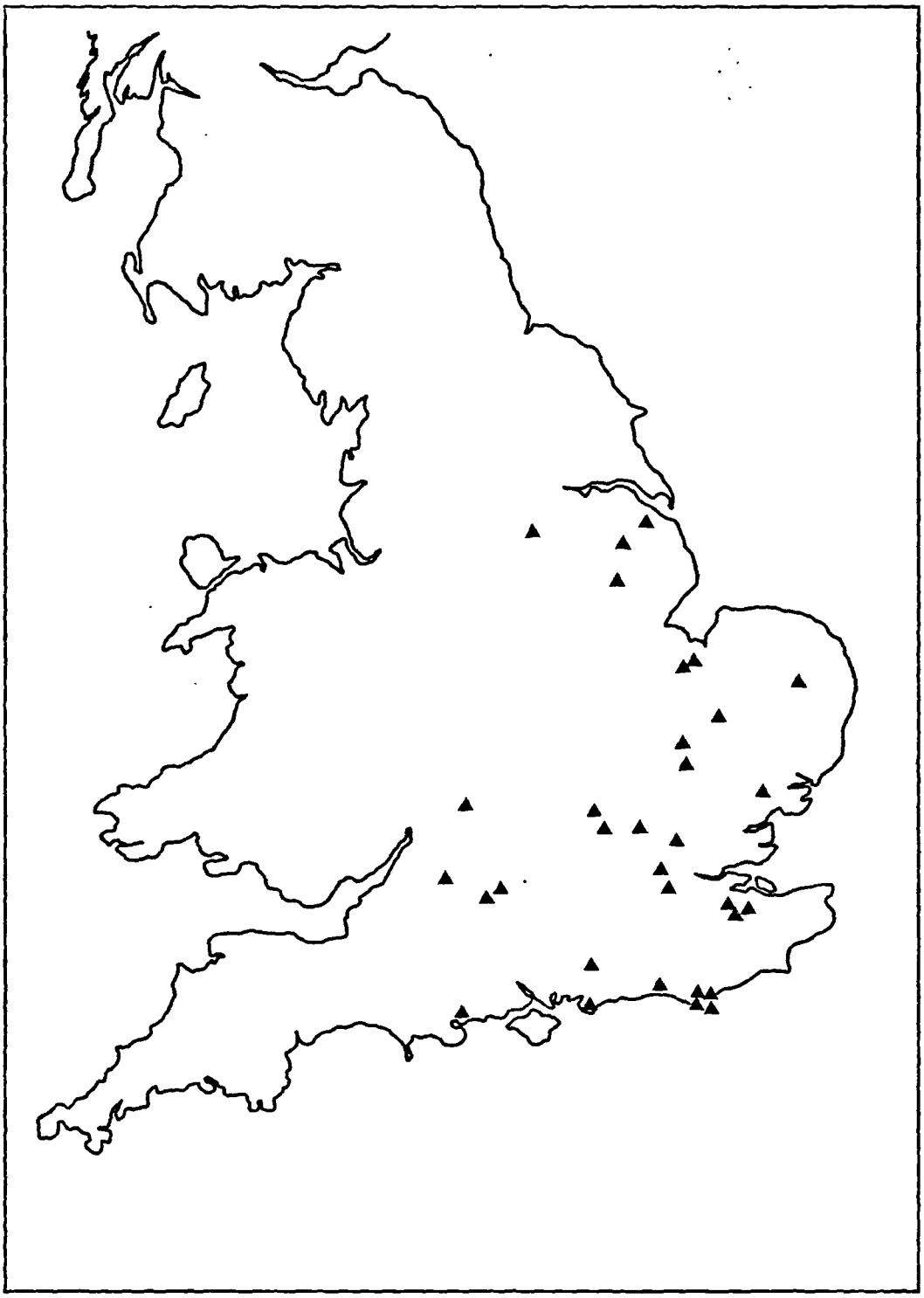


Fig.13:4 Map of 'early' hoards

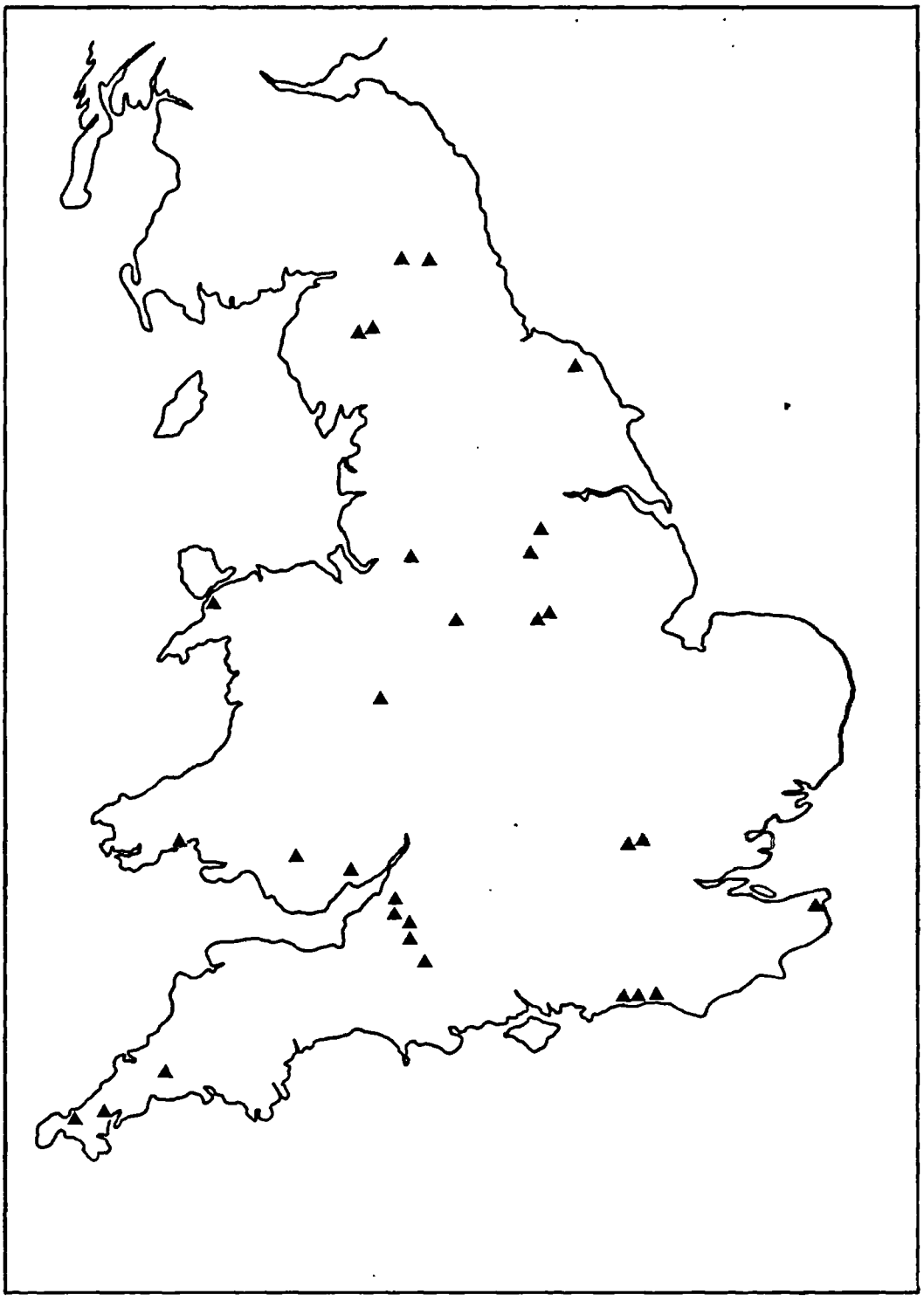


Fig.13:5 Map of 'late' hoards

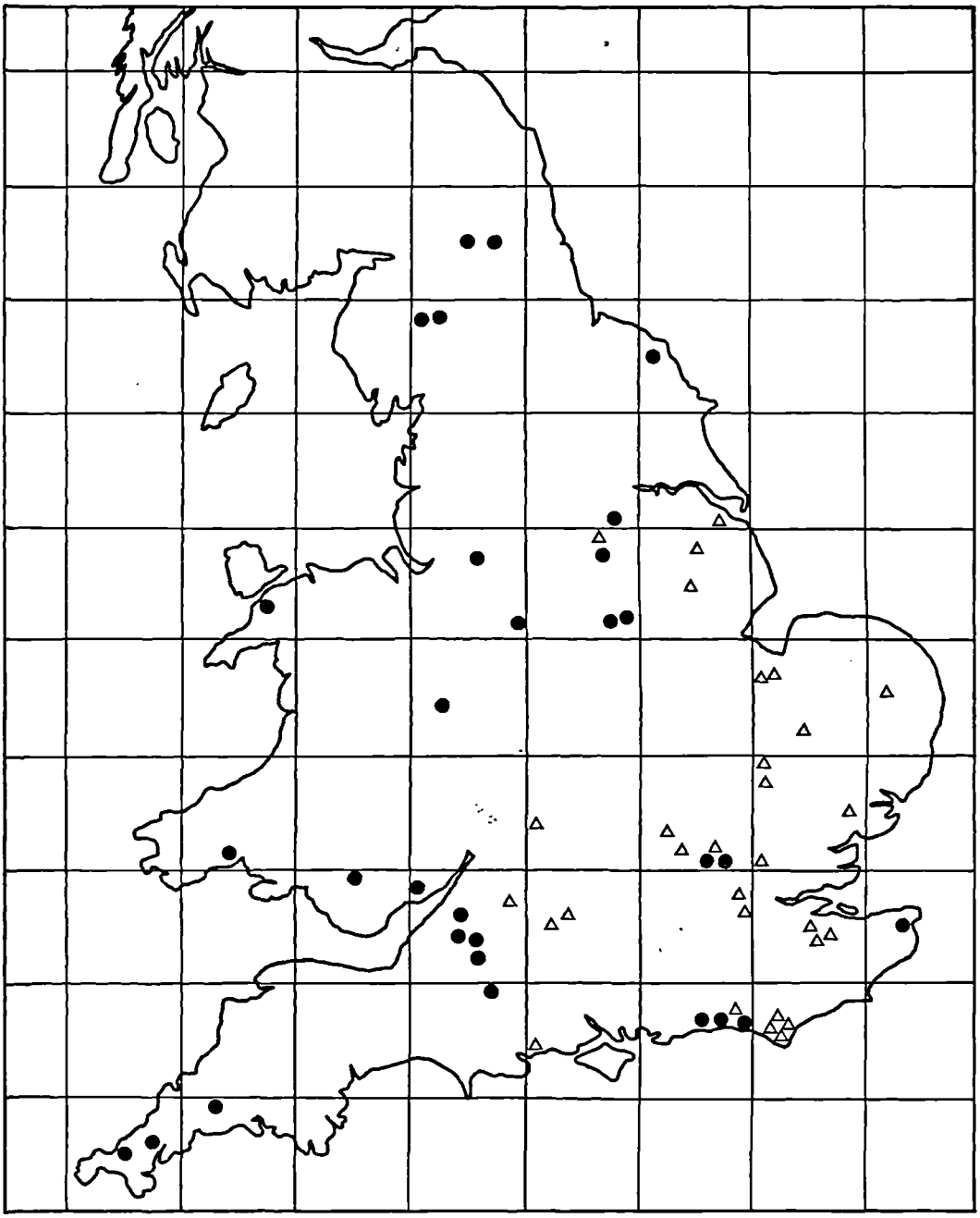


Fig.13:6 Map of 'early' and 'late' hoards

Could it be possible that the two large hoard groups are not early and late, but in fact represent contemporary but regional variation in hoarding behaviour? There is undoubtedly an answer to be found in the character of the areas of Britain in question. Does the pattern reflect the circulation of minims only in the north, with larger copies in the south east? This cannot be the case because of the evidence from site collections studied. Site assemblages show clearly that both minims and larger types were used in all areas, although perhaps in slightly different proportions. Minims are certainly found consistently in the south east and form between 20% and 30% of barbarous radiate totals on sites.

The differences in the way of life between the two areas may help to explain the observation. The early hoards all turn up in the lowland zone. In that more Romanised area there was greater settlement, more roads and a resultant greater density of Roman finds. In contrast, the late hoards came from the less-Romanised areas, including the highland zone, the north, Wales and the extreme south west. In these areas, the Roman way of life would not have been adopted as fully as in the previous zone; especially away from the towns.

One further category of evidence can be provided before a fuller explanation is sought. That is our evidence for the manufacture of imitations in Britain. This will now be summarised, in two categories.

A. Evidence for moulding

1. Whitchurch (Somerset). 300 clay moulds, with slag, four crucibles, iron chisel, bronze rod. (Boon and Rahtz 1966).
2. Clevedon (Somerset). A single obverse mould of a coin of Tetricus I. (Cunliffe 1966, 71).

3. Silchester (Hants.). A single lead reverse mould, of a barbarous Spes type. (Fulford 1982b).

B. Evidence in hoards

1. White Woman's Hole (Somerset). Cut antoniniani, blanks, minim hoard and sections of cast bronze rod. Fine bronze wire, scraps of bronze and some iron wire. A group of Constantinian counterfeits in association suggests a probable fourth-century manufacturing context. (Boon 1972).

2. Coygan Camp (Dyfed). Hoard of 315 coins in association with a fragment of white clay crucible, vitreous slag and bronze droplets. (Boon 1967).

3. Draethen (Carmarthenshire). Sections of cast rod, small scraps of metal, hammered and cut coins and blanks. (Boon 1972).

4. Sprotbrough (Yorkshire). Hoard of 321 barbarous radiates. Associated metalwork. Sections of bronze rod, bronze tube, bronze globules and blanks. (Mattingly 1982).

5. Meare Heath (Somerset). Along with the hoard which contains profuse internal die-linking are 150 blanks. (Davies 1986).

6. Near Bristol (Avon). A barbarous radiate hoard, with bronze scrap and a lump from a small crucible. (Milne 1931, 104).

7. Whitchurch (Avon). Internal die-linking and blanks.

The evidence summarised here has been mapped in figure 13:7. These sites show a restricted pattern, with concentration in the south west of Britain, mainly in the area of the Bristol Channel. Those sites with evidence for manufacture, or with suggested nearby manufacture, again come from the less-Romanised area, away from the south east (except for the single case of Silchester). The majority of them are located close

the dividing line between the two zones, in rural locations. They appear to have been positioned in places away from the grip of the authorities.

It has been recognised that evidence for craft-specialisation in Roman Britain is found at a wide range of settlements (Richmond 1966). Fulford concluded that there was little to distinguish rural from town-based craftsmen (1982, 6). Expertise in certain crafts is evidenced in the very areas in question, in relation to the production of irregular coinage. In particular, a map prepared to show the location of pewter moulds shows a near identical distribution pattern to that recorded in figure 13:7 (Fulford 1982a, 415). The skills involved in the manufacture of pewter moulds and counterfeit coin moulds would not have been very dissimilar. This new evidence serves to reinforce the suggestion that the Avon-Somerset-Wiltshire area was an important centre of irregular coin production. It may be that the very craftsmen who produced pewter vessels were the same workers who were employed on moulding counterfeit coins and engraving dies for the production of barbarous radiates.

Discussion

The data presented in this chapter shows that a very high number of coin hoards were being buried over a relatively short time-span. The rapid deterioration of the coinage over these years would have encouraged people to store their better coin, which in turn caused still greater problems in an economy already short of good coin. It is also possible that some irregular coins could have sometimes been circulated in bulk, which could account for the number of hoards. It is suggested that the coins that were deposited in a particular area are

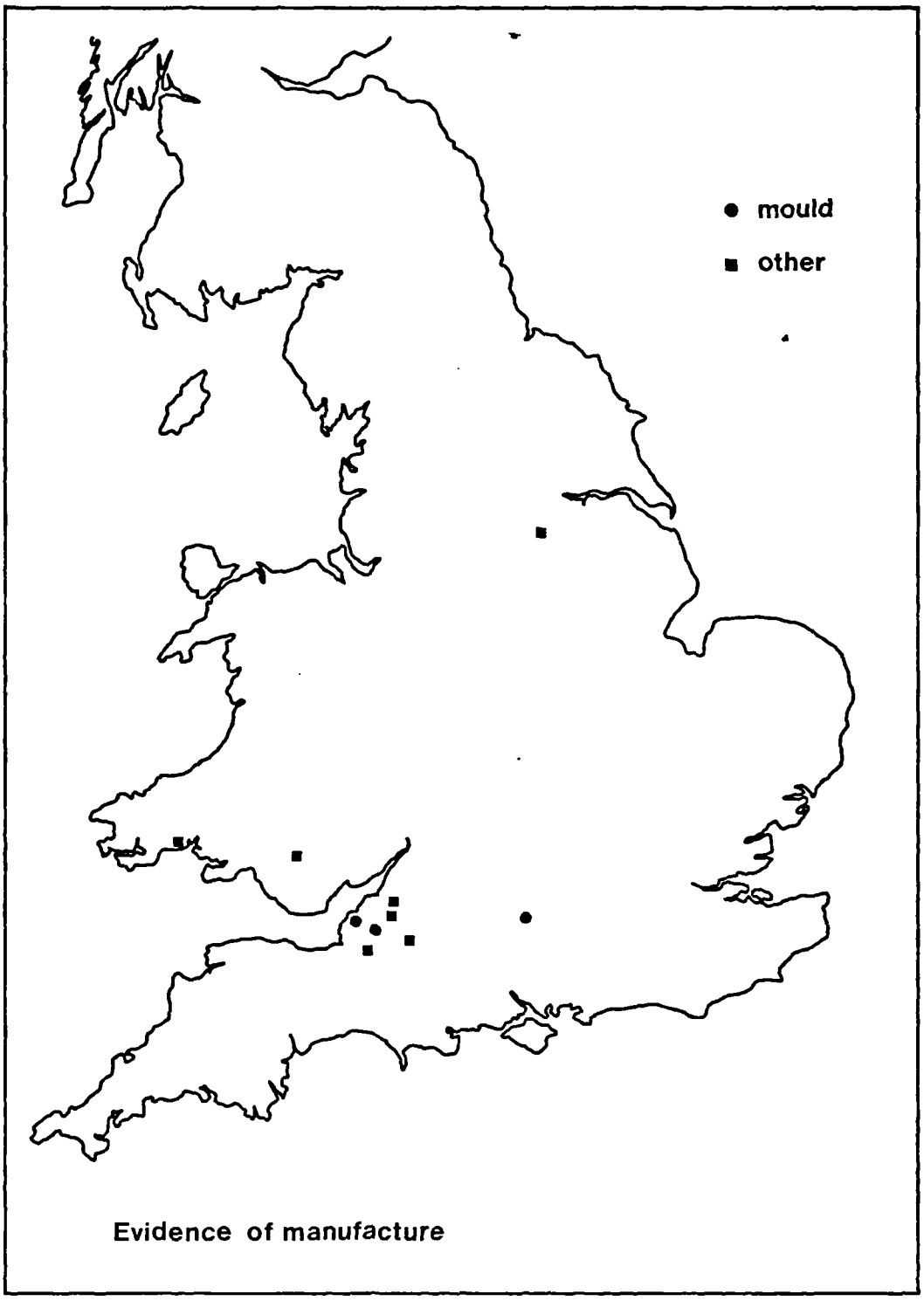


Fig.13:7 Map showing evidence of manufacture

representative of the types that circulated in that area, to a large extent.

Figure 13:4 shows the restricted pattern of location of the early hoards. This distribution coincides closely with that part of Britain most heavily influenced by the Roman way of life. It was the area of Britain administered by the civitates. The use of coin was not restricted to this part of the province but it is likely that the circulation of coin for everyday transactions would have been concentrated in this more Romanised zone.

It has been argued elsewhere that the earliest barbarous radiates were struck in Gaul, from about AD 263. The early hoards recorded in figure 13:4 contain the first wave of imitations, which were better copies, including numerous imitations of the Central and early Gallic Emperors. There is no evidence to suggest that there was any manufacture of these imitations in Britain in the south and east at this time. That part of the country has been subjected to more intense archaeological investigation than areas to the west and north which have turned up such evidence. It is clear that this early imitation coin was coming in to Britain alongside official coin and that the two types were being used together in the south east, in the early 270's.

Figure 13:5 shows the later situation. It can be seen that by the later 270's and early 280's barbarous radiates were being hoarded not just in the south east, but right across the province, including the remotest parts. The production areas, shown in figure 13:7, show some correlation with this distribution; bordering the Romanised south east. It is stressed that the process of hoarding would have been continuous and there would have been no real break between the

two, detectable, categories of hoard outlined. The role of coin-linking can now be discussed.

Linking between the hoards

The significance of the links between coins from those hoards documented in this chapter can now be considered. In addition, the numerous die- and style-links between Britain and the continent, outlined in chapter 11, will also be discussed. Figure 13:8 contains two maps, (a) and (b), which are similar to those shown in figure 11:2. This time, links between the British hoards shown have also been included (the links are documented in chapters 6-11). Each group shows profuse linking between consistuent British hoards but no links have been discovered which associate the early and late categories. This observation adds further validity to the distinction between the early and late groups.

The early group will be considered first (figure 13:8, a). These hoards contain links with other early hoards in the south of England. One site link has also been included, where a coin from the La Vineuse hoard die-links with the Canterbury site find. Links between both sides of the Channel appear as commonly as those evidenced between purely British hoards.

In figure 13:8, b, linking between the English late hoards is shown. No links were discovered between these hoards and others from the continent. The links shown in the figure are between English site finds, considered to be of late type, and with Gallic hoards which show similarity to the English late group.

The overall picture can be summarised. There was a coinage pool in the early- to mid-270's which associated the south east

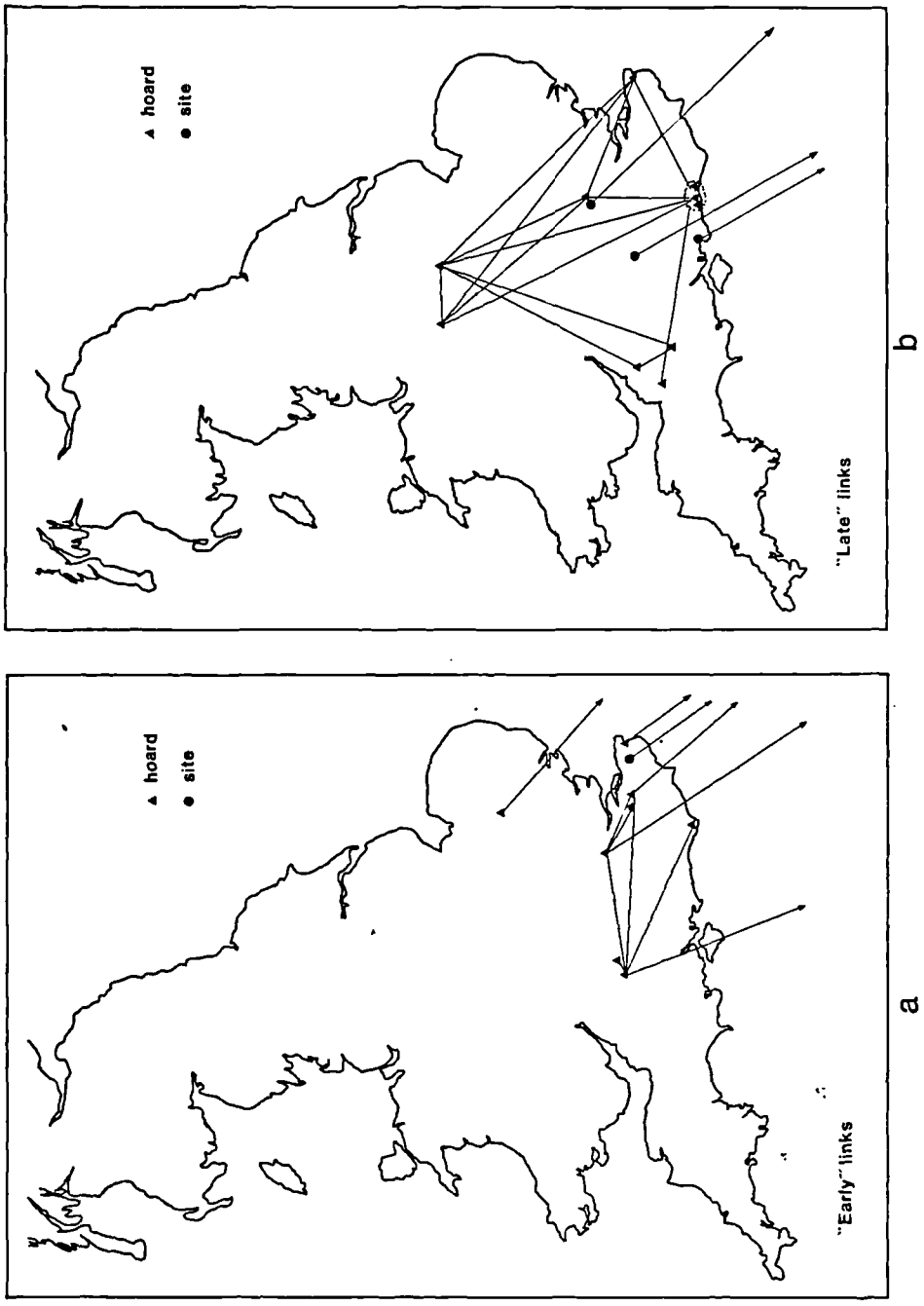


Fig.13:8 Maps showing 'early' and 'late' links

of England with the continent. Early, large module, imitations supplemented the coinage in use and entered Britain through pre-existing channels of coin supply. There is no evidence to suggest that any of the earliest barbarous radiates used in the south east originated in this country. It is deduced that they were being struck in Gaul. By the late 270's and early 280's there had been a development. Barbarous radiates were being produced in Britain. The use of these irregular coins had spread to communities right across the province and the evidence of die-linking between hoards in Britain and Gaul has ceased. The irregular moneyers in Britain were producing enough coin within this province to obviate the need to import more from the continent.

If the earliest production and supply of imitations had originally been associated with the regular mints in some capacity (Besly and Bland 1983, 69), this was no longer the case by the mid-270's. Many, small, mints were producing their own distinctive types on both sides of the Channel. The degree of association between products found as far afield as Sussex and the English Midlands shows that some mints could be fairly major producers. Others, as evidenced in chapters 6 to 11, appear to have been more concerned with more local or regional requirements.

The west of Britain and the tradition of irregular coin production

It has been clearly evidenced that the west of Britain, mainly to the south of the Severn Estuary, was a major source of irregular coin - in particular the later types, of reduced module. Although it has been deduced from evidence studied in chapters 6 to 10 that coin was produced in other areas, this

area has produced the most important evidence to date.

The overall weight of evidence favours a later start for production in Britain than in Gaul. However, some evidence does show that irregular radiates were being produced in the early 270's. The moulds from Whitchurch and Clevedon were employed to produce counterfeits, from impressions of antoniniani, that would pass for official coins. This process was comparable to the use of moulds at Lyons in France (chapter 11). Thus, there was a tradition of producing irregular coin in the west of England before the main phase of barbarous radiates; again located on the edge of the main Romanised zone. When the main phase of barbarous radiate production commenced in Britain, manufacture was revived here. There had never been an official mint in Britain and there was no native expertise within an official capacity. It was left to others, including those who had engraving and metalworking skills, such as the producers of pewter moulds (see above) and those who had developed their skill in an illegal manner for counterfeiting. It can also be suggested that the location of the sites in question shows the absence of any official sanction for this production.

It is not only the process of manufacture that is in question in this chapter. The process of hoarding and the location of the hoards should be examined more closely. Many of the late hoards, shown in figure 13:5, could be argued to have been deposited at the border between the Romanised lowland zone of the south east and the less-Romanised and more rural areas. It has been argued that much of Roman Britain retained a largely tribal economy, which was based on social interaction and not on the use of coin, during the first two centuries AD (Reece 1979). It is probable that communities within the less-

Romanised areas did not adopt the use of coin for everyday transactions, as would have been the case in the south east, and in towns elsewhere. It has been argued from the field of ethnography that coins can be used for exchange between communities before they are adopted within them (Pryor 1977). This may explain the number of hoards observed at the junction of the two parts of Britain, and may also serve to show that coins could be used in bulk, in such a capacity.

The treatment of the same artefacts could differ markedly between two adjacent zones. Bradley has shown that an artefact that was functionally important in one area could be collected for its metal content when it crossed into an area where it was not accepted in the same way. In specific contexts, hoards of artefacts have been found to ring the distribution of single finds, 'even in landlocked areas' (Bradley 1985, 700). In other words, it may be that the observed patterning of late barbarous radiate hoards, outside of the Romanised zones, marks the division between the coin-using and non-coin using communities. An imaginary line can be drawn between approximately Weymouth, in the south west, and the River Humber, in the north east, which separates the two. This does not suggest that the urban sites to the north and west were noticeably different to those in the south east, in this respect. However, the observed patterning may represent the reluctance of the native rural communities in the more remote areas to adopt the use of coinage for everyday transactions. The presence of so many late third century hoards in Britain has previously presented a problem to archaeologists and numismatists. Large numbers of hoards deposited within a restricted timespan have usually been considered diagnostic of unsettled political conditions or invasions. However, we know

that the Germanic raids which swept the continent did not reach mainland Britain (Reece 1981b, 84-6). The arguement presented here explains why so many hoards, which have been shown to have a composition distinct from that of most hoards buried in the south east, are found well inland in Britain at this time.

The composition of the hoards

The compilation of the data used in this chapter has necessitated the accumulation of detailed lists, which are included here as appendices 1-3, below. Full details of all hoards included were not always available but all accessible information on hoard composition is provided in appendix 3. The presentation of this data has resulted in the establishment of further differences between the major categories of hoard.

In the case of the twenty-six early hoards, 61% are under 1000 coins in size and over 38% contain under 500. They range from small, with four containing less than fifty coins, to the very large. Cunetio contains the massive total of 55,000 and is the largest hoard recorded in Britain, to date.

The twenty-three late hoards differ markedly. 74% of these contain under 1000 coins and 65% have under 500. The largest example is Maltby, with just 3,496 coins. It may have been expected that these late hoards, containing smaller coins, would contain more coins in order to make up the equivalent metallic value, but this is not the case. The comparative number of hoards, at different sizes, are as follows.

	0 to 50	to 100	to 500	to 1000	to 2000	to 5000	to 10,000	to over 10,000
26 'EARLY' HOARDS	4	4	2	6	2	2	4	2
23 'LATE' HOARDS	4	4	7	2	1	5	0	0

It is interesting to also compare the slightly later situation of the British Empire. Shiel listed sixty-one hoards from Britain which date to the years between 287 and 296 (Shiel 1977). His information shows 85% of these to be under 1000 coins and 74% to be under 500. It can be seen that the trend towards smaller and smaller hoards continued through into this period.

Less and less metal was being hoarded over time. It is noted that all of the coins in question were base metal only. In the case of the barbarous radiates, not only were less coins being hoarded but their size was also falling. The trend towards minims required less metal for coining. This whole situation reflects a coin shortage, which was taking effect by the mid-270's. There appears to have been an increasing shortage of metal for coining. This deduction can be reinforced by other forms of evidence. Other types of metal small finds from Roman sites of this date, such as brooches, also became scarce at this time, and reinforce the concept of a metal shortage (Nina Crummy, pers.comm.). Less available metal was being turned into still less, smaller, coins.

Conclusions

The contribution made by the large quantity of hoard data helps to provide a framework for the whole study of barbarous radiates. Strong patterns have emerged from this information, which show clearly when mapped. They are less easily explained. The earliest barbarous radiates are clearly evidenced to have come from the continent and circulated mainly in the south east. The large number of early hoards in that area would mainly have been buried as a response to sea-borne

barbarian raids along the Channel and North Sea coastline and to the steady deterioration in the quality of coins in circulation.

The area to the south of the Severn Estuary appears to have been a major area of irregular coin production, with a continuity of manufacture rooted in earlier counterfeiting and metalworking. The types of coin struck in this area were those of smaller module, as evidenced at Meare Heath and on western sites (see chapter 6). Later hoards, which contain minims, are found right across the province, but mainly away from the south east. Although it has been suggested that there was a slight predominance in the proportion of minims circulating in the west of Britain over that encountered in the east, these small coins did circulate right across the province in substantial quantities, forming over 20% of all site assemblages. Therefore, some explanation must be sought for the greater number of minim hoards outside of the south east. It is suggested that this situation shows the division between the areas where coins were and were not used for everyday transactions. The pattern for minim hoards shown in figure 13:5 indicates concentrations away from the more Romanised areas. The use of coins in the less-Romanised parts may have been restricted to their exchange in quantity - with the coin using community.

Appendix 1. List of barbarous radiate hoards, by county

ANGLESEA

1. Amlweh

AVON

2. Near Bristol
3. Clapton-in-Gordano
4. Filton
5. Whitchurch
6. Worlebury Camp
7. Camerton

BEDFORDSHIRE

8. Cranfield

BUCKINGHAMSHIRE

9. Moneybury Hill, Pitstone

CAMBRIDGESHIRE

10. Near Cambridge
11. Wimblington
12. - removed

CHESHIRE

13. Agden

CLWYD

14. Dinorben

CORNWALL

15. Hayle

16. Perran-ar-Worthal

17. Near Liskeard

CUMBRIA

18. Brougham

19. Brougham (Ninekirks)

20. Kendal area

DORSET

21. Poole

22. Weymouth Bay

DYFED

23. Coygan Camp

ESSEX

24. Colchester

25. Great Chesterford

26. Witham

27. Near Colchester

28. Epping Forest

29. Colchester, Oliver's Orchard

GLAMORGAN

30. Draethen

GLOUCESTERSHIRE

31. Cirencester

32. Coleford

33. Coleford, Park End

34. Filwood

35. Great Chessells

GWENT

36. Caerwent 1

37. Caerleon

GWYNEDD

38. Segontium 2

39. Segontium 3

HAMPSHIRE

40. Blackmoor 1

41. Blackmoor 2

42. Netley Abbey

43. Silchester

HERTFORDSHIRE

44. Verulamium 1

45. Verulamium 3

46. Verulamium 4 - Theatre

47. Verulamium (1960)

48. Northchurch

KENT

49. Allington

50. Gillingham

51. Hollingbourne

52. Richborough 2

53. Richborough 3

54. Richborough 4

55. Canterbury

56. Vinters' Park

57. Canterbury (Frere)

58. South Norwood

LEICESTERSHIRE

59. Goadby Marwood

LINCOLNSHIRE

60. Linwood

61. Riby

62. Coleby

LONDON (inc. Greater London)

63. Bermondsey

64. Lime Street

65. Paternoster Row

66. Southwark

67. Addington near Croydon

NORFOLK

68. Caister St Edmund

69. Emneth 1

70. Emneth 2

71. Redenhall

NORTHAMPTONSHIRE

72. Nobottle

73. Peterborough

NORTHUMBERLAND

74. Great Chesters

75. Coventina's Well

NOTTINGHAMSHIRE

76. Calverton 1

77. Calverton 2

78. Everton

OXFORDSHIRE

79. Kiddington

80. Long Wittenham

81. Woodeaton 1

SHROPSHIRE

82. Wroxeter 1, Hypocaust

83. Wroxeter 2, Shop

84. Much Wenlock

SOMERSET

85. Ham Hill

86. Wiveliscombe 2

87. Meare Heath

88. White Woman's Hole

89. Sparkford area

STAFFORDSHIRE

90. Lightwood

STRATHCLYDE

91. Uddington

SUFFOLK

92. Icklingham 2

93. Icklingham 4

94. Mildenhall

95. Woodbridge

SUSSEX

96. Beachy Head 2

97. Beachy Head 3

98. Beachy Head 4

99. Beachy Head 6

100. Worthing

101. Goring-on-Sea

102. Hove

103. Brighton

104. Chichester

105. Selsey

WILTSHIRE

106. Cunetio

107. Mere

108. Nettleton

109. Bowood House

110. Aldbourne

YORKSHIRE

111. Norton

112. Upton

113. Sprotbrough

114. Cadeby

115. Maltby

116. Mytholmroyd

117. Glaisdale High Moor

Appendix 2. Categories of hoard

Unreliable hoards - total 22

		Reason for urreliability
1.	Amlweh (publ.1938)	Suspicious corposition.
4.	Filton (publ.1879/81)	Very old and vague report.
10.	Near Cambridge (publ.1889)	Old and vague report.
11.	Wimblington (publ.1939)	Only a very small sample of the original hoard survives.
18.	Brougham (publ.1911)	Only a small percentage of hoard is traceable.
24.	Colchester (publ.1934)	'Handed down as a hoard' but a dubious collection. Probably a mixture.
27.	Near Colchester (publ.1951)	The provenance was guessed and it is an unlikely combination of coins.
32.	Colefcrd (publ.1881/2)	Ar old, very vague, repcrt.
34.	Filwood (publ.1870)	An old and confused accourt.
42.	Netley Abbey (publ.1867)	An old report and a dubious collection.
45.	Verulamium 3 (publ.1936)	A suspicious combiratior.
59.	Goadby Marwood	Full details not available.
66.	Southwark (publ.1864)	A vague report.

69. Emneth 1 (publ.1945)	A large number of coins were disposed of before identifications were made.
80. Long Wittenham (publ.1936)	The report was based on a small sample of the hoard.
85. Ham Hill (publ.1936)	An old and vague report.
91. Uddingston (publ.1917/18)	An old, vague report.
93. Icklingham 4 (publ.1934)	An unlikely composition for a hoard.
105. Selsey (publ.1933)	The report does not mention barb.rads, but I have encountered one in Chichester Museum.
112. Upton (publ.1929)	An old and possibly inaccurate account.
116. Mitholmroyd	A suspicious composition.

One other hoard listed by P.V.Hill (1949) is from Duston, Northants. However, H.Mattingly stated that this group of coins cannot be treated as a hoard (Mattingly 1934).

Fourth-century hoards - total 23

6. Worlebury Camp (Avon)
8. Cranfield (Beds)
20. Kendal area (Cumbria)
22. Weymouth Bay (Dorset)
31. Cirencester (Glos)
36. Caerwent 1 (Gwent)
43. Silchester (Hants)
50. Gillingham (Kent)
52. Richborough 2 (Kent)

53. Richborough 3 (Kent)

55. Canterbury, Marlowe (Kent)

63. Bermondsey (London)

71. Redenhall (Norfolk)

72. Nobottle (Northants)

79. Kiddington (Oxon)

81. Woodeaton 1 (Oxon)

82. Wroxeter 1, Hypocaust (Salop)

83. Wroxeter 2, Shop (Salop)

86. Wiveliscombe 2 (Somerset)

92. Icklingham 2 (Suffolk)

95. Woodbridge (Suffolk)

109. Bowood House (Wilts)

111. Norton (Yorks)

British Empire hoards - total 11

3. Clapton-in-Gordano (Avon)

14. Dinorben (Clwyd)

33. Coleford, Park End (Glos)

38. Segontium 2 (Gwynedd)

40. Blackmoor 1 (Hants)

44. Verulamium 1 (Herts)

57. Canterbury, Frere (Kent)

58. South Norwood (Kent)

73. Peterborough (Northants)

78. Everton (Notts)

89. Sparkford area (Somerset)

Date not allocated - total 2

64. Lime St (London)

104. Chichester (Sussex)

Early hoards - total 26

9. Moneybury Hill (Bucks)

21. Poole (Dorset)

25. Great Chesterford (Essex)

28. Epping Forest (Essex)

29. Colchester, Oliver's Orchard (Essex)

35. Great Chessells (Glos)

41. Blackmoor 2 (Hants)

48. Northchurch (Herts)

49. Allington (Kent)

51. Hollingbourne (Kent)

56. Vinters' Park (Kent)

60. Linwood (Lincs)

61. Riby (Lincs)

62. Coleby (Lincs)

65. Paternoster Row (London)

67. Addington (London)

70. Emneth 2 (Norfolk)

94. Mildenhall (Suffolk)

96. Beachy Head 2 (Sussex)

97. Beachy Head 3 (Sussex)

98. Beachy Head 4 (Sussex)

99. Beachy Head 6 (Sussex)

103. Brighton (Sussex)

106. Cunetio (Wilts)

110. Aldbourne (Wilts)

114. Cadeby (Yorks)

Possible earlies - 6

* 10. Near Cambridge (Cambs)

* 45. Verulamium 3 (Herts)

68. Caister St Edmund (Norfolk)

* 69. Emneth 1 (Norfolk)

* 105. Selsey (Sussex)

108. Nettleton (Wilts)

* These hoards also classified as "unreliable".

Late hoards - total 29

5. Whitchurch (Avon)

7. Camerton (Avon)

13. Agden (Cheshire)

15. Hayle (Cornwall)

16. Perran-ar-Worthal (Cornwall)

17. Near Liskeard (Cornwall)

19. Brougham, Ninekirks (Cumbria)

23. Coygan Camp (Dyfed)

26. Witham (Essex)

30. Draethan (Glamorgan)

37. Caerleon (Gwent)

39. Segontium 3 (Gwynedd)

46. Verulamium Theatre (Herts)

47. Verulamium, 1960 (Herts)

54. Richborough, 1931 (Kent)

74. Great Chesters (Northumberland)

75. Coventina's Well (Northumberland)

76. Calverton 1 (Notts)

77. Calverton 2 (Notts)

84. Much Wenlock (Salop)

87. Meare Heath (Somerset)

88. White Woman's Hole (Somerset)

90. Lightwood (Staffs)

100. Worthing (Sussex)

101. Goring-on-Sea (Sussex)

102. Hove (Sussex)

107. Mere (Wilts)

113. Sprotbrough (Yorks)

115. Maltby (Yorks)

Possible lates - 4

2. Near Bristol (Avon)

* 18. Brougham (Cumbria)

* 66. Southwark (London)

117. Glaisdale High Moor (Yorks)

* These hoards also classified as "unreliable".

Appendix 3. Composition of the hoards

							GALLIC EMPIRE							
	Before 193	193-259	259-268	268-270	270-275	275-282	Post., Lael., Marius	Victor	Tetrici	Barb. Rads.	282-294	Brit.Emp. 287-296	Post-294	Uncertain
Early Hoards														
9. Moneybury Hill				1			2	4	12	9				2
21. Poole		---267---		131	1		96	248	216	6				
25. Gt Chesterford							1	4	77	7				
28. Epping Forest			1	4				7	40	2				
29. Colch., Oliver's Orchard	4	771	778	593	158		1504	1707	536	72				
35. Gt Chessells	1		26	29	1		1	13	55	8				
41. Blackmoor II			1	1			1	4	38	1				
48. Northchurch		5			1		16	1	2	2				
49. Allington				1		1			3	17				
51. Hollingbourne		404	635	600	5	8	1237	914	1181	365				14
56. Vinters' Park			5	4			4	15	6	1				4
60. Linwood		21	122	90			120	252	201	10				

61. Riby		---1803---		1619	15	27	235	2928	6435	433	
62. Coleby		49	1015	705	150	121	107	1343	3478	786	13
65. Paternoster Row			4	10					2	527	
67. Addington		10	32	18			49	56	3	1	1
70. Emneth II			------217------				308	133	5	1	
94. Mildenhall		18	199	121	1		42	281	588	48	
96. Beachy Head II		8	260	261	6	5	40	477	838	9	169
97. Beachy Head III		2	74	63		1	3	88	187	3	129
98. Beachy Head IV		35	729	565	13		109	1084	2718	37	4
99. Beachy Head VI		36	797	720	12		110	1660	2161	44	
100.Brighton		1	118	111				230	270	225	
106.Cunetio	3	11641	14402	2334	4		13052	7199	4023	2191	
110.Aldbourne	Details not yet available										
114.Cadeby		11	323	259	4		60	500	422	16	73
Possible Early Hoards											
10. Nr.Cambridge		---152---		166	3		425	634	858	66+	
45. Verulamium III			11	6			4	17	11	3	
68. Caister St Edmund				7	7		1	4	22	43	2

69. Emneth I	38	280	229	3		181	525	325	12?	1
105. Selsey	---340---		10			515	109		1+	
108. Nettleton	1	8	8			14	3	5	6	16

Late Hoards

5. Whitchurch									Some thous.	
7. Camerton									85	
13. Agden	22	267	254	1	4	61	586	1163	69	8
15. Hayle									161+	
16. Perran-ar-Wor.									60+	
17. Nr Liskeard									20	
19. Br.Ninekirks									23	
23. Coygan Camp									315	
30. Draethen			1					1	6+	
37. Caerleon									Under 100	
39. *Segontium* 3	Uncertain composition (total 21)								11	(10 minimi)
46. Ver Theatre									800	
47. Ver 1960									90	

54. Richborough 1931		1	1			1	2	11	541		312
74. Great Chesters	Uncertain composition (total 120)								85 (minimi)		
75. Coventina's Well	Uncertain composition										
76. Calverton 1	1	31	33			1	38	134	1219		
77. Calverton 2		4	3	1			3	21	261		
84. Much Wenlock	16	308	283	9	32	65	563	1178	45	1	51
87. Meare Heath	3	63	59			12	69	179	869+150 blanks		
88. W.W.Hole									59		
90. Lightwood	10	266	214	3	16	32	368	830	722		
100. Worthing		1		1					2067		
101. Goring			1						432		
102. Hove									455		
107. Mere									100		
113. Sprotbrough									321+186 blanks		
115. Maltby	44	486	353	19	138	287	938	1223	8		
Possible Late Hoards											
2. Nr Bristol							1		268		

18. Brougham		3	4		5			42				1
66. Southwark	Uncertain composition							554				
117. *Glaisdale*			2			3	7	10				1
Uncertain Date												
64. Lime Street								32				
104. Chichester								10				
British Empire Hoards												
3. Clapton-in-Gordano	1	---580---	530	31	55	55	725	1435	3	7	?	16
14. Dinorben		1					1	1	1		2	
33. Coleford	Uncertain composition (total 300+)											
38. Segontium II		2	4	1		3	5	2	18		1	
40. Blackmoor I	31	3817	4213	377	655	399	5450	14028	?	181	635	16
44. Verulamium I		2	2				3	12	3		14	
57. Canterbury			1						4		1	
58. South Norwood		1					2	1	3		48	
73. Peterborough	8	1	1						2		1	2
78. Everton	Uncertain composition (total 600)											

89. Sparkford area	Uncertain composition								
Fourth-century Hoards									
6. Worlebury	----1----						1	239	
8. Cranfield						1	1	1511	187
20. Kendal area	Uncertain composition								
22. Weymouth Bay	Uncertain composition - dispersed (total 4400+)						47		
31. Cirencester		1					2	921	
36. Caerwent	Total size - 4006					44			
43. Silchester						1		17	
50. Gillingham	1					----6----		715	
52. Richborough II	1	1	1	1		4	5	1013	176
53. Richborough III	Total size - 1238						11	c.1150	
55. Canterbury - Marlowe	Full details not yet available								
63. Bermondsey							3	358	
71. Redenhall		7	1	1		5	17	113	
72. Nobottle	Total size - 814						2		
79. Kiddington		1					9	1166	

81. Woodeaton I			2	3			1546
82. Wroxeter I	Total size - 132			8			
83. Wroxeter II	Total size - 38; unspecified composition						
86. Wiveliscombe II			8	2			1129
92. Icklingham II	1	2	6	11	1	2	1041
95. Woodbridge				5			437
109. Bowood House	Uncertain composition						
111. Norton	Total size - 8; unspecified composition						

Bibliographical references for the published hoards

Note. The references are restricted to an abbreviated format because many of the older references were not accessible to the writer at first hand and secondary sources have been used in a number of cases.

1.	Amlweh	BBCS, 1938, 168-83
2.	Near Bristol	JRS, 1931, 104-5
3.	Clapton-in-Gordano	NC, 1927, 209-18
4.	Filton	PSA, 1879-81, 385-7
5.	Whitchurch	NS, 1934, 92-105 and 1935, 16-20; Arch.J. 1966, 15-17
6.	Worlebury Camp	NC, 1946, 153-6
7.	Camerton	NC, 1948, 81-2
8.	Cranfield	NC, 1946, 159-62
9.	Moneybury Hill	Coin Hoards VI, 1981, 33; Records of Bucks, 1982, 176-8
10.	Near Cambridge	NC, 1889, 332-4
11.	Wimblington	NC, 1939, 177-8
12.	Hoard removed from list.	
13.	Agden	NC, 1962, 143-55
14.	Dinorben	Excavation report, Cardiff, 1971, 33ff
15.	Hayle	VCH, Cornwall V, 35-6; NC, 1936, 202-9
16.	Perran-ar-Worthal	VCH, Cornwall V, 34-8; NC, 1853, 12-14
17.	Near Liskeard	NC, 1952, 96-8

18.	Brougham	Trans.of the Cumberland and Westmorland Arch.Soc. 1911, 209-11 and 1978, 204-6
19.	Brougham (Ninekirks)	Trans.of the Cumberland and Westmorland Arch.Soc. 1978, 23-8
20.	Kendal area	Trans.of the Cumberland and Westmorland Arch.Soc. 1978, 29-35
21.	Poole	NC, 1933, 229-32
22.	Weymouth Bay	Trans.of the Dorset Arch.Soc. 1929, 158-82
23.	Coygan Camp	Boon, 1967, 116-26
24.	Colchester	NC, 1934, 255-62
25.	Great Chesterford	NC, 1934, 225-7
26.	Witham	Forthcoming site report (East Anglian Archaeology 1988)
27.	Near Colchester	NC, 1951, 91-108
28.	Epping Forest	BMOP, 31, 1981, 25-6
29.	Colchester, Oliver's Orchard	BMOP, 58, 1986, 65-118
30.	Draetham	Proc.Univ.Bristol Spelaeological Soc. 1972, 74-82
31.	Cirencester	NC, 1929, 332-4
32.	Coleford	BGAST, 1881/2, 109
33.	Coleford, Park End	BGAST, 1881/2, 111
34.	Filwood	PSA 1879/81, 387-8
35.	Great Chessells	NC, 1960, 275-7
36.	Caerwent 1	BBCS, 1924, 92-3
37.	Caerleon	Proc.Univ.Bristol Spelaeological Soc. 1972, 79
38.	Segontium 2	Shiel, 1977, 47

39.	Segontium 3	Y Cymmrodor, 1923, 118-20
40.	Blackmoor 1	BMOP, 33, 1982
41.	Blackmoor 2	NC, 1935, 55-6
42.	Netley Abbey	Jnl.Brit.Arch.Assn., 1867, 168-74
43.	Silchester	NC, 1969, 248-9
44.	Verulamium 1	Wheeler, 1936, 110; Shiel, 1977, 47
45.	Verulamium 3	Wheeler, 1936, 62
46.	Verulamium 4	NC, 1937, 211-28
47.	Verulamium (1960)	Mattingly, 1971
48.	Northchurch	Hertfordshire Archaeology 4, 1974-6, 19
49.	Allington	Davies, 1982a; VCH, Kent III, 144
50.	Gillingham	Arch.Cant., 1909; VCH, Kent III, 155
51.	Hollingbourne	NC, 161, 211-13; NC, 1964, 195
52.	Richborough 2	Excavation report III, 1932, 34 and 192-5
53.	Richborough 3	NC, 1939, 112-19
54.	Richborough 4	Mattingly and Stebbing, 1938
55.	Canterbury	Unpublished (personal inspection at Canterbury Arch.Trust)
56.	Vinters' Park	BMOP, 31, 1981, 7-8
57.	Canterbury (Frere)	Shiel, 1977, 40
58.	South Norwood	Shiel, 1977, 48
59.	Goadby Marwood	Details not available
60.	Linwood	NC, 1935, 57-62
61.	Rigby	JRS, 1954, 92; Tyler, 1975
62.	Coleby	BMOP, 54, 1984, 22-60
63.	Bermondsey	NC, 1946, 167-9
64.	Lime Street	Merrifield, 1955, 113-24

65.	Paternoster Row	Mattingly, 1967a
66.	Southwark	Jnl.Brit.Arch.Assn., 1864, 339
67.	Addington	BMOP, 31, 3-6
68.	Caister St Edmund	Norfolk Archaeology 1930, 135-6
69.	Emneth 1	NC, 1945, 147-53
70.	Emneth 2	Norfolk Archaeology 1941, 107-10; NC, 1943, 101
71.	Redenhall	NC, 1946, 157-9
72.	Nobottle	Arch.J., 1933, 282-305
73.	Peterborough	BNJ, 1904, 349-51
74.	Great Chesters	Arch.Ael. 1902, 63-4
75.	Coventina's Well	NC, 1933, 82-4
76.	Calverton I	Mattingly, 1961
77.	Calverton 2	Mattingly, 1961
78.	Everton	NC, 1945, 153-5
79.	Kiddington	VCH, Oxfordshire I, 329; NC, 1936, 82-7; Oxoniensia, 1936/7, 70-80
80.	Long Wittenham	NC, 1936, 319-20
81.	Woodeaton 1	VCH, Oxfordshire I, 328; JRS, 1931, 104 and 108-9
82.	Wroxeter 1	VCH, Shropshire I, 217-18; NC, 1859, 79-83
83.	Wroxeter 2	VCH, Shropshire I, 217-18
84.	Much Wenlock	BMOP, 31, 49-61
85.	Ham Hill	NC, 1936, 30-42
86.	Wiveliscombe 2	NC, 1946, 163-5
87.	Meare Heath	Coin Hoards II, 1976, 46-51; Davies, 1986
88.	White Woman's Hole	Proc.Univ.Bristol Spelaeological Soc., 1972, 61-82

89.	Sparkford area	BMOP, 31, 1981, 63-8
90.	Lightwood	Mattingly, 1963
91.	Uddingston	Proceedings of the Society of Antiquaries Scotland, 1917/18, 273
92.	Icklingham 2	NC, 1929, 319-27
93.	Icklingham 3	NC, 1934, 262-6
94.	Mildenhall	NC, 1954, 40-52
95.	Woodbridge	NC, 1935, 49-53
96.	Beachy Head 2	SAC, 44, 1-8
97.	Beachy Head 3	SAC, 58, 193
98.	Beachy Head 4	NC, 1962, 163-88
99.	Beachy Head 6	Bland, 1979
100.	Worthing	Mattingly, 1964
101.	Goring-on-Sea	Mattingly, 1967b
102.	Hove	Mattingly, 1939c
103.	Brighton	Casey, 1974
104.	Chichester	Unpublished (personal inspection at Chichester Museum)
105.	Selsey	NC, 1933, 223-8
106.	Cunetio	Besly and Bland, 1983
107.	Mere	NC, 1934, 300-2
108.	Nettleton	WAM, 1963, 452
109.	Bowood House	WAM, 1977/8, 180-6
110.	Aldbourne	BMOP, 43, 1984, 63-104
111.	Norton	Malton Excavation Report V, 117
112.	Upton	NC, 1929, 318-19
113.	Sprotbrough	Mattingly, 1982
114.	Cadeby	BMOP, 31, 1981, 9-24
115.	Maltby	BMOP, 31, 1981, 27-47
116.	Mitholmroyd	NC, 1953, 140-1
117.	Glaisdale High Moor	NC, 1958, 183-5

Abbreviations

Arch.Ael.	Archaeologia Aeliana
Arch.Cant.	Archaeologia Cantiana
Arch.J.	Archaeological Journal
BBCS	Bulletin of the Board of Celtic Studies
BGAST	Transactions of the Bristol and Gloucestershire Archaeological Society
BMOP	British Museum Occasional Paper
BNJ	British Numismatic Journal
Jnl.Brit.Arch.Assn.	Journal of the British Archaeological Association
JRS	Journal of Roman Studies
NC	Numismatic Chronicle
PSA	Proceedings of the Society of Antiquaries
Records of Bucks	Records of Buckinghamshire
SAC	Sussex Archaeological Collections
WAM	Wiltshire Archaeological Magazine
VCH	The Victoria County History

Where the relevant publications have been listed in the main bibliography, references have been provided in the normal way, above.

Chapter 14. The circulation of barbarous radiates in the provinces of the Roman Empire

In this chapter, published data will again be used in order to supplement the results obtained from the first hand study of barbarous radiates. Other published information was used, to a limited extent, in chapter 11. In chapter 13, important observations were made from an analysis of published hoards of the period in question. Attention can now be turned to coin collections from sites, in the form of coin lists. Such lists are available for all parts of the Roman Empire, although very few were accessible in the cases of more distant places. The compilation, collection and analysis of this information allows a quantitative and comparative study of what coins were circulating in the different provinces.

Coin lists have been found from most provinces of the Roman Empire, from as far afield as Antioch, in the east, Conimbriga in the west and Carthage in the south. However, the emphasis has remained in the north west, where most data is available. British sites have been included. Very little information is available for some southern and eastern areas and so published hoards have also been taken into consideration. The data studied here were originally prepared by many different scholars.

The aim of this chapter is to establish just how far afield barbarous radiates circulated and what proportion of the coinage pool they formed in different areas. If it can be shown that these coins circulated in specific areas and not in others, it may be possible to point to specific local conditions having given rise to the irregular coinage. If these coins were not used in some areas, what was being used in

their place? The conclusions from this comparative study will be useful towards establishing an overall context into which the information assembled at first hand from southern England and France can be integrated.

The data studied

The approach to be used in this chapter is that employed by Dr C.E.King (King 1981). By studying available coin lists from the north-western provinces, King was able to suggest that there was an actual shortage of regular coin struck after the reform of Aurelian, and that there was not merely a selective resistance to the new coin in Britain and Gaul, as had been suggested by Harold Mattingly (Mattingly 1951). The data used in that survey has been supplemented and extended to all parts of the Empire.

The use of 'issue periods' is now generally applied to the study of Roman coinage, for purposes of inter-site comparison. The period under consideration in this study as a whole embraces two coin issue periods. These are Reece's periods X and XI, relating to the years AD 259-75 and 275-94, respectively (Reece 1972, 271). It is the coinage of these years that will be examined here in detail. The categories of coin which comprise the coinage of the years 259-94 can therefore be summarised as:-

Central Empire, period X (Gallienus - Aurelian).

Central Empire, period XI (Tacitus - Diocletian).

Gallic Empire.

Barbarous radiates.

British Empire (Carausius and Allectus).

Each of these five categories can be expressed as a percentage

of the total of the coinage of 259-94 at each site. It was decided to separate the period X and XI Central Empire coinage, which King did not do, in order to derive more sensitive inter-site comparison.

The coin lists will be considered area by area. These are:- Britain; northern and central Gaul; eastern Gaul - Rhineland; southern Gaul; northern Italy; Spain - Portugal; Bulgaria; Hungary; Greece; Africa; Anatolia; Syria - Palestine. Each of these areas will be looked at in turn. The coin numbers from each site are listed in an appendix to this chapter, together with reference to the sources of the information employed. In addition to this, the information has been presented in map form, for ease of comparison. The percentage of each constituent category of coin present within a site collection is shown by different shading within separate pie-diagrams (figures 14:2 - 14:11). A key for the different shadings used is provided below (figure 14:1) and the number given to each site corresponds to a column in the appendix, at the end of this chapter.

The coinage of each area will be looked at in turn. The most useful starting point will be Britain.

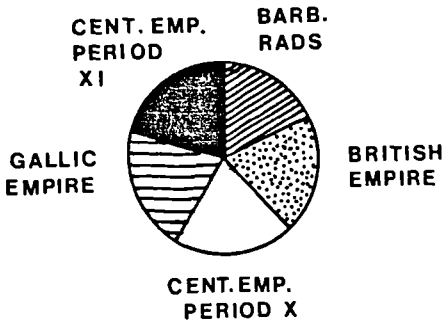


Fig.14:1 Key to maps in chapter 14

Britain (figure 14:2)

Coin lists from a total of twenty-eight British sites have been used. Many more were available but this selection of sites, from right across the south of the country, is considered to be a representative sample from the province. They are not precisely the same selection as were used by King, although there is some overlap. The sites have been listed on a regional basis in the appendix in order to show any geographical differences between site collections.

King noted that Central Empire coin, of periods X and XI combined, peaks between the values of 20% and 30% of the total. Gallic Empire coin was seen to peak at between 30% and 40%. Percentages of British Empire coins are low but constant. Barbarous radiates were seen to peak at between 30% and 40%. This is also the general situation encountered at new sites. In addition, when the Central Empire coins are split between both issue periods it is seen that period XI examples are very rare on British sites. They are only present at eighteen of the twenty-eight sites and only at four of these do they account for more than 2%.

This information is shown most clearly in figure 14:2. The pie-charts show that the main components of the British coinage pool were Gallic Empire, Central Empire period X and barbarous radiates. British Empire coin is seen to form a consistent portion, which increases significantly at Portchester and Lullingstone Villa. Central Empire period XI coin is regularly present at western sites, but not elsewhere. Three Hampshire sites have a larger proportion of barbarous radiates than is seen elsewhere (the sites of Neatham, Winchester and Chichester).

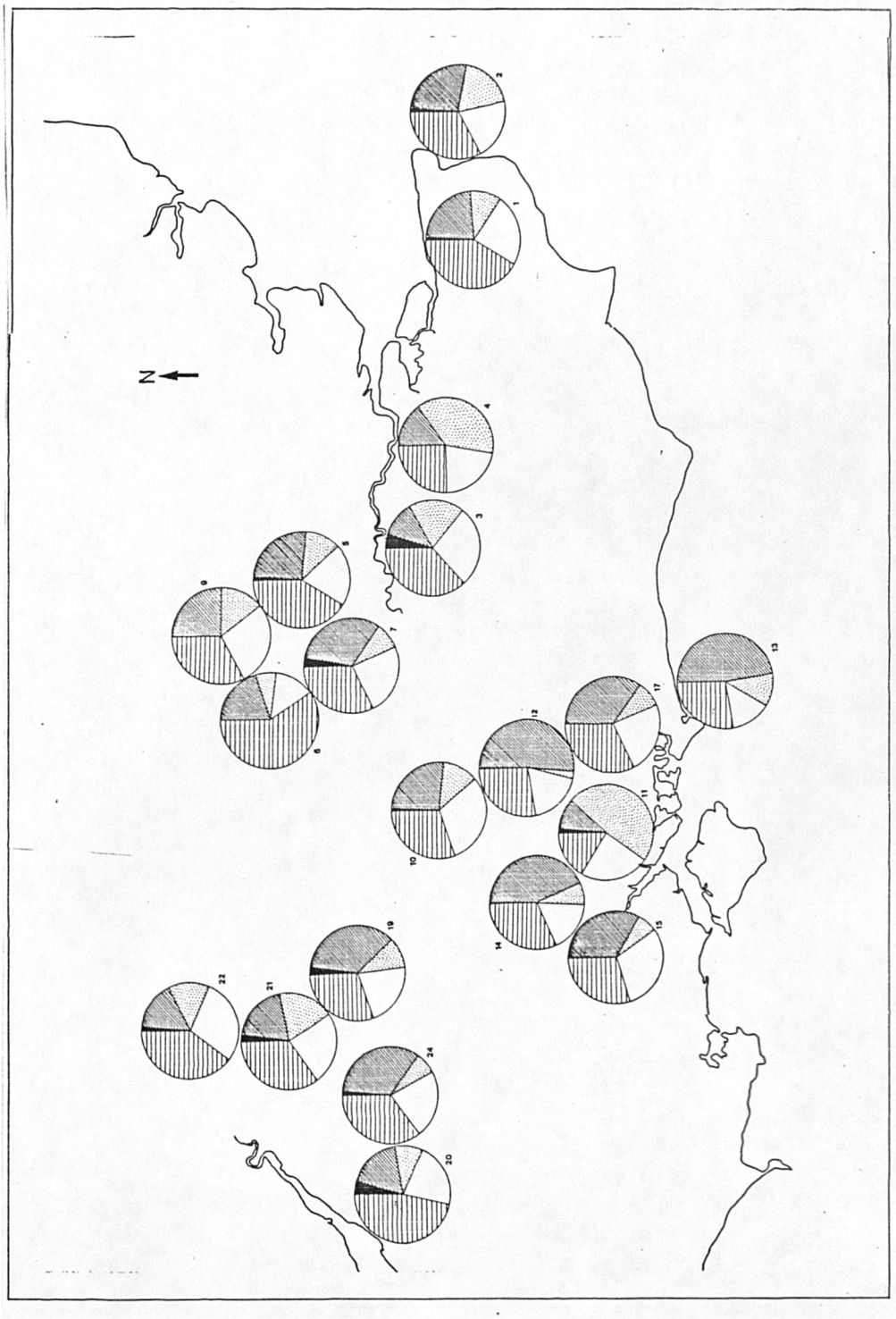


Fig.14:2 Map of coin types found in Britain

The regional variations observed within Britain are only very minor. In general, the British coinage pool can be considered to be quite consistent throughout.

Northern and central Gaul (figure 14:3)

Twenty sites have been looked at from northern and central Gaul; the area that was considered in chapter 11. These sites were looked at by King, but the presentation here has been arranged for greater clarity. These sites, as shown in figure 14:3, include some from King's northern, central eastern and southern categories. The geographical limits here have been defined as the River Loire, in the south, and Verdun, in the east.

The coin numbers recorded in the appendix are most clearly interpreted with reference to the pie-diagrams in figure 14:3. Despite the proximity of this area to Britain, the situation across the area is both variable and displays differences to the more homogeneous pattern across that province. Some of the Gallic sites exhibit a high proportion of imitations, while others have a very low proportion. On this basis, the sites can be separated by a line drawn diagonally south-west to north-east, roughly parallel with the Channel coast and approximately 120 miles inland. This is indicated in figure 14:3 by a dashed line. The site of Plouguerneau, on the tip of Brittany, is an exception among the northern group, with no barbarous radiates present.

Nine sites, excluding Plouguerneau, lie to the north of the dashed line. Only one of these has below 40% imitations. Central Empire period XI coin is very scarce, as in Britain, with just two of these sites having above 2%. The Central Empire period X coin is lower, as between 2% and 30%. There is

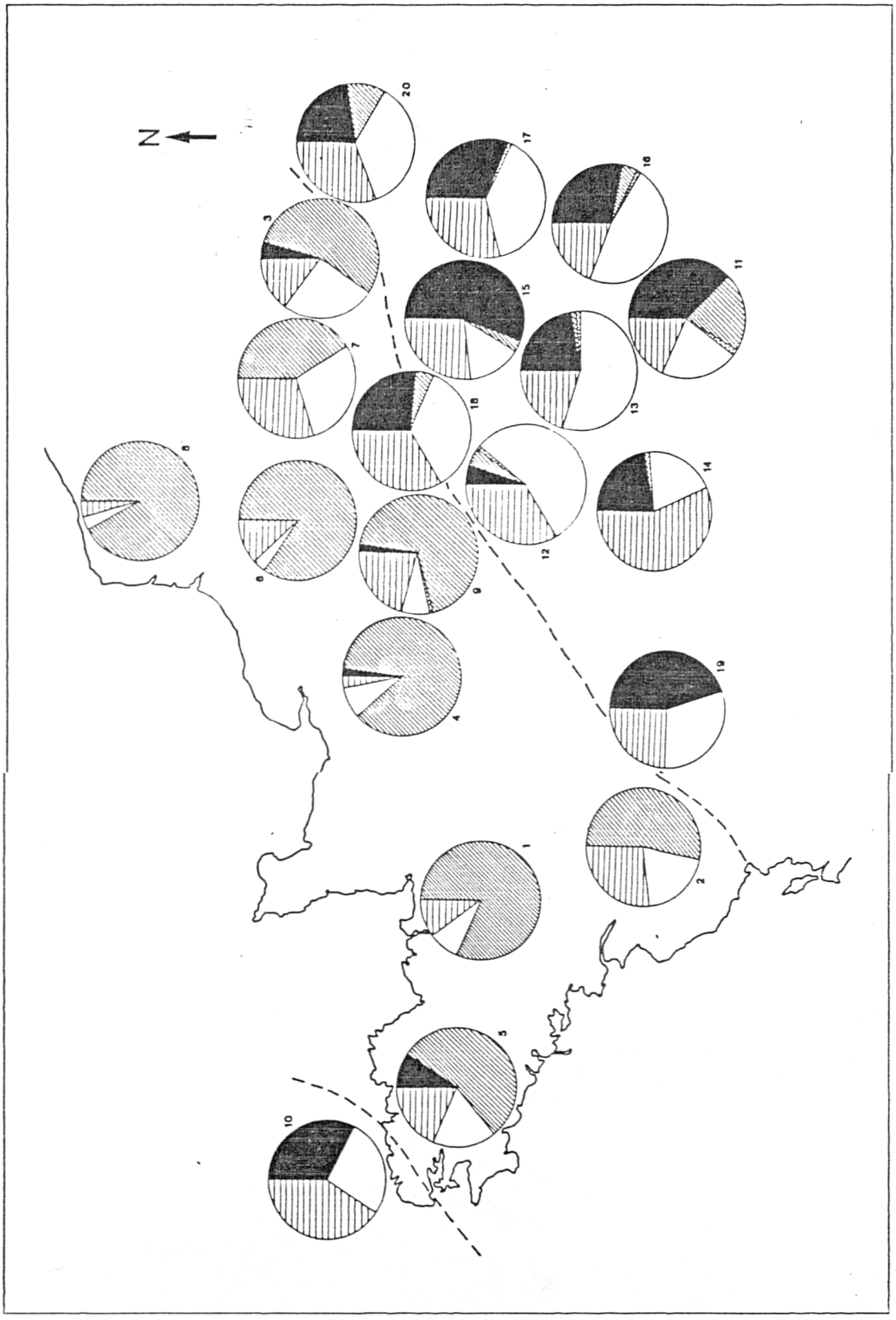


Fig.14:3 Map of coin types found in northern and central Gaul

just a single British Empire example recorded among all of these sites. The Gallic Empire coinage ranges between 3% and 40%.

To the south of the dashed line the percentage of imitations falls drastically. The highest recorded presence is 20.4% and only two of the ten sites have over 10%. Conversely, only one has below 20% Central Empire Period XI coin, with most containing between 20% and 45%. Percentages of Central Empire period X and Gallic Empire coinage are higher than at the more northerly sites, with the former falling mainly between 20% and 55%, and the latter between 20% and 30%. British Empire coins are present at six of the ten sites.

The exceptional site of Plouguerneau more closely resembles the central Gallic group and contains no imitations or British Empire types. The extreme geographical position may account for the exceptional composition. Both of the groups outlined are essentially different to the British group. The northern Gallic sites contain a much higher proportion of imitations. Only one British site reached 50%. The central Gallic group contain more Central Empire period XI coin than is seen in Britain. Neither Gallic group has a significant presence of British Empire coin, as recorded in Britain.

Eastern Gaul - Rhineland (figure 14:4)

Twenty-seven sites from the east of Gaul and the Rhineland have been studied in this section. The sites used here were listed by King in three separate sections - northern Gaul, central eastern Gaul and the Rhineland. Pie-charts for these sites are shown in figure 14:4.

The sites in the north-west of this area are dominated by the presence of irregular coin. Thirteen of them possess

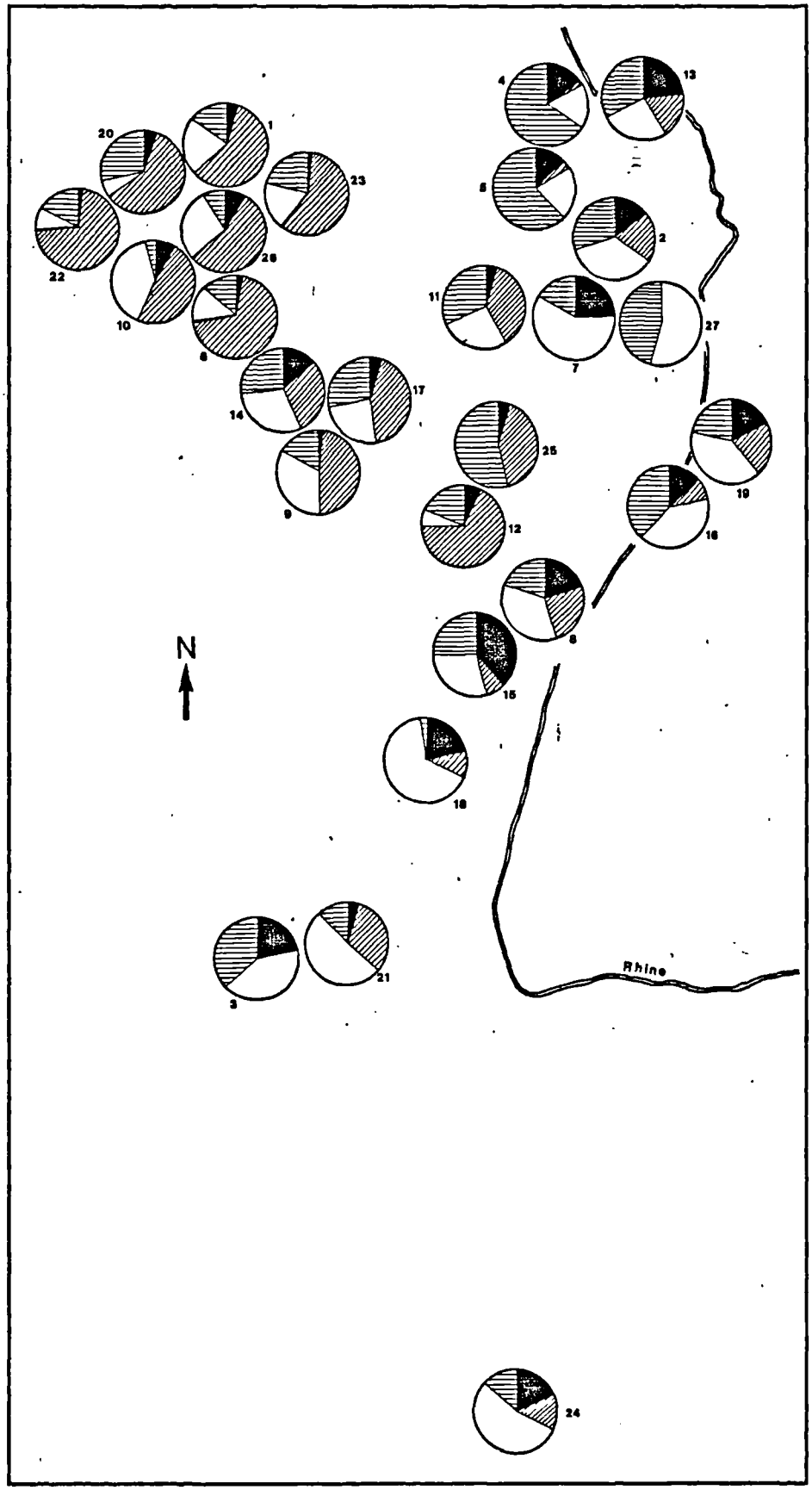


Fig.14:4 Map of coin types found in eastern Gaul and the Rhineland

around 30% or more of this category. Central Empire period X coin is common all over the area but forms a larger proportion in the central-east and south. Central Empire period XI coin is consistently present in small amounts, with a slight increase in the centre and east. Gallic Empire coinage is always present, in varying quantities, but below 50% in all but three cases. British Empire coins are extremely scarce; found on only three sites in the north-west of the area.

Southern Gaul (figure 14:5)

A total of thirteen sites have been used from the south of Gaul. Some of the sites used by King from this area had very small coin totals and such sites have not been used in this survey, for fear of distorting the comparative percentage figures.

The pie-diagrams in figure 14:5 show a great deal of diversity across the area. Barbarous radiates are scarce generally. Just three of the sites have more than 10% of these, two of which contain large percentages. These particular sites are located further inland, and to the west. Gallic Empire coinage comprises under 25% of the assemblages on nine of the sites. Central Empire period XI coin, although absent from two sites, is generally present in high proportions, mainly at between 10% and 34%. Central Empire period X coin dominates the assemblages in most cases, with over 30% on eleven sites and over 60% on six.

It is important to note that the coinage total for the whole period from 259-94 is small in this area, forming a low percentage on sites (King 1981). It is clear that there was a shortage of official coin in the area during those years, but also an absence of irregular coin to compensate.

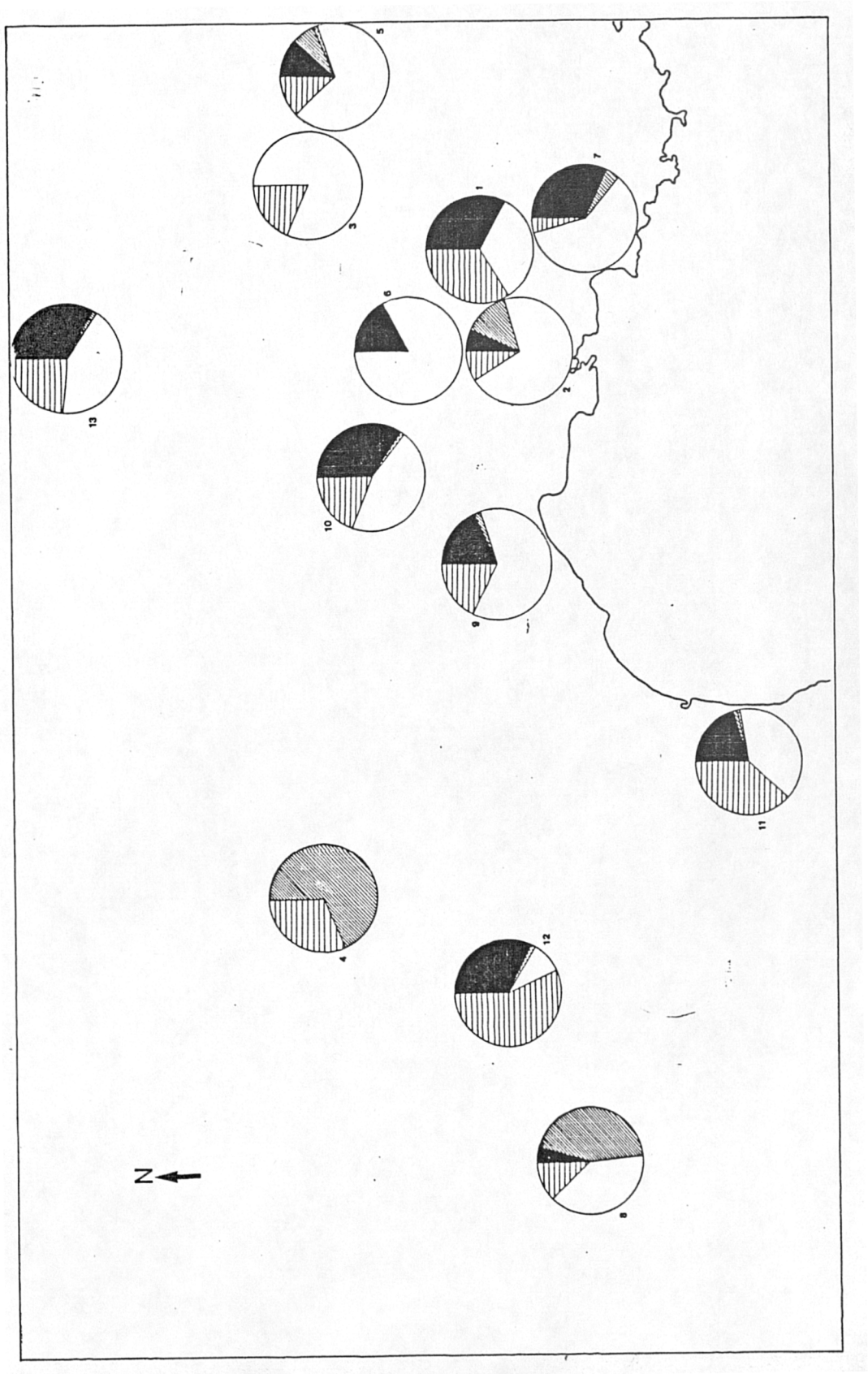


Fig.14:5 Map of coin types found in southern Gaul

Northern Italy (figure 14:6)

The sixteen sites listed for northern Italy were all taken from museum collections and were compiled by Dr Reece (Reece 1971 and 1973). The figures show strong unity, as was the case for Britain and northern Gaul, but strong differences in composition with previous areas are present, as shown in figure 14:5. The most significant point is that barbarous radiates are totally absent from the whole area.

All site collections are dominated by Central Empire period XI coin, which only falls below 50% at three sites. Central Empire period X coin was also very important, forming between 25% and 40% of all but three sites. Gallic Empire coinage is present in all but one case but is below 10% at thirteen sites. British Empire coins are present, in small numbers.

This is the only area so far with assemblages dominated by Central Empire period XI coin. There was no shortage of coin supply in this area, where official coin was supplied without interruption throughout periods X and XI.

Spain and Portugal (figure 14:7)

The number of comparative coin lists from the Iberian peninsula is very limited. Figures from just seven sites have been used. The assemblage sizes vary but a consistent pattern of types in circulation emerges, as shown in figure 14:7. Central Empire period X coin is overwhelmingly dominant, never falling below 74%.

Central Empire period XI coins are present in all but one case, which is only a very small assemblage (Casa Italicense). However, they never exceed 10%. Gallic Empire coins and barbarous radiates are found in the larger assemblages, but in very small numbers. They appear to have been reaching the

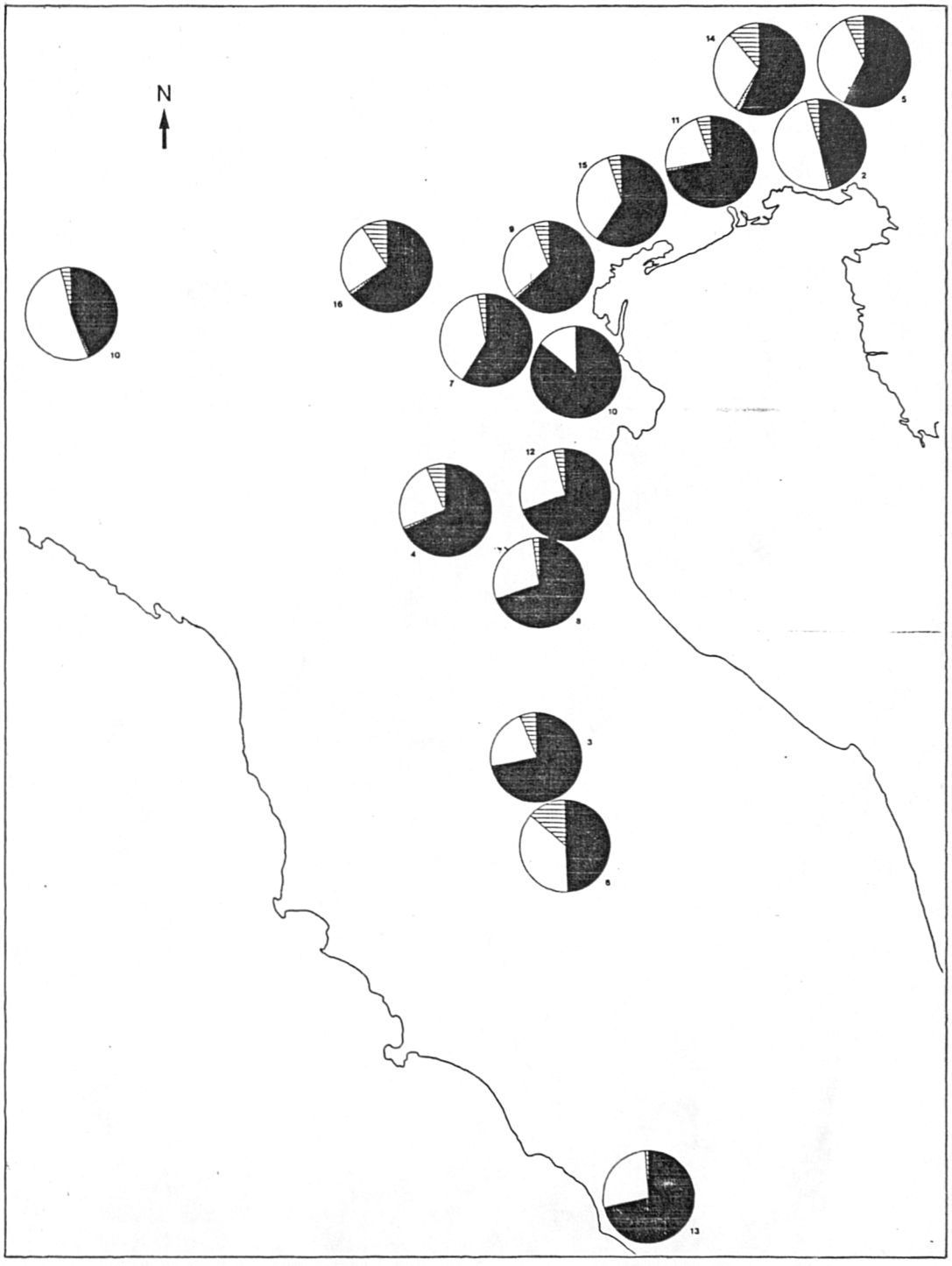


Fig.14:6 Map of coin types found in northern Italy

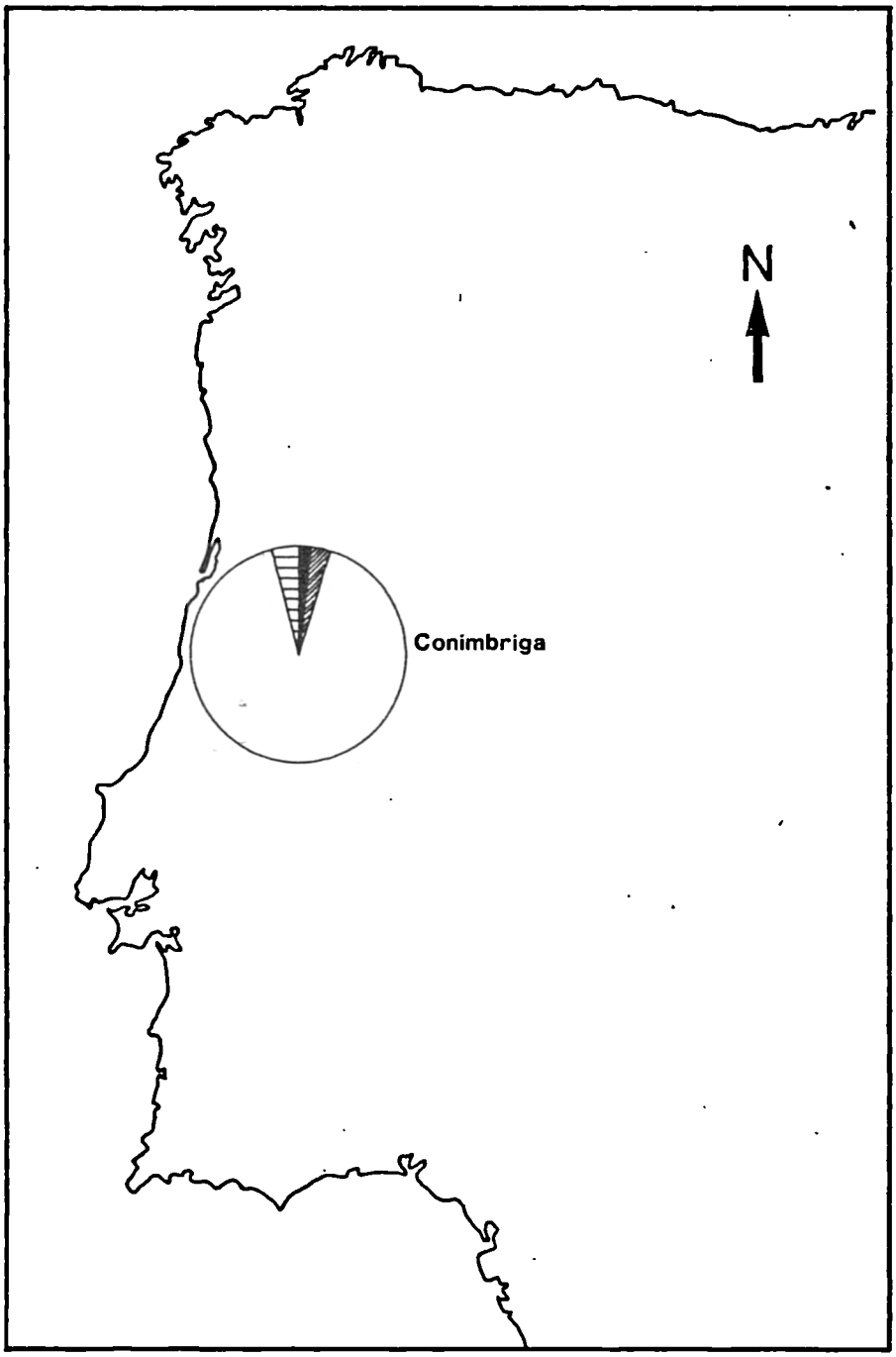


Fig.14:7 Map of coin types found in Portugal

Iberian sites but only in very small quantity and are only found where the recovery rate is high. Gallic Empire coins never exceed 5% but barbarous radiates reach 17% at Barcino.

Bulgaria (figure 14:8)

Just one coin list has been found from this part of the Balkans, which is that for the Roman villa at Chatalka (Nikolov 1976). It is not possible to interpret the results of a single site, in isolation, to be representative of a large area but this information can be studied in conjunction with that from other sites in adjacent countries, in order to reveal more about coin supply to the Balkans provinces.

The figures from the Chatalka villa show that all of the coin used was of Central Empire type. Of this, period X coin formed 91.7%. It is noted that the total coinage of the period 259-94 does not form a high proportion of the complete assemblage. The small number of Central Empire coin present shows a restricted supply of official coin to this area.

A hoard from the same area has been listed, which was found at Ragevo (MacDonald 1974). This hoard shows a similar pattern of coin types. Over 99% of the period X and XI coin from this large hoard belong to the Central Empire period X. Less than 1% below to period XI. Six Gallic Empire coins were identified, which comprise a mere 0.1%, by comparison.

Hungary

A single coin list from the site of Brigetio, in the province of Pannonia, has become available (Biro-Sey 1977). Although this is a single site collection, it does serve to fill a gap in the distribution of collections studied so far, between northern Italy and the Rhine, in the west, and the Balkans, in

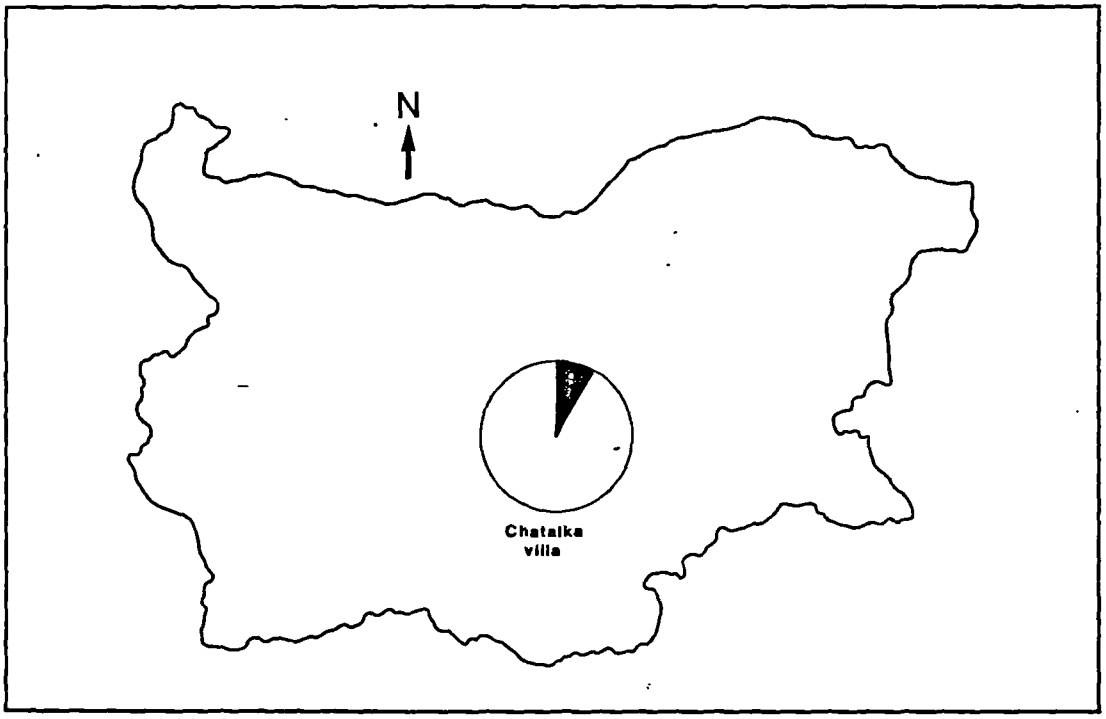


Fig.14:8 Map of coin types found in Bulgaria

the east.

The assemblage incorporates features of the coinage from both areas, as may have been anticipated. Almost three quarters of the coin is of Central Empire period X type. Just under one quarter is of Central Empire period XI, which shows that such coin was reaching this area. Gallic Empire coinage is scarce, reflecting the long distance from the Gallic mints. There are just six examples and eight barbarous radiates. British Empire coinage is completely absent.

Greece (figure 14:9)

Coin lists from six Greek sites have been studied. All of these come from the south of the country. The coin pattern, as shown in figure 14:9, is very consistent and is dominated by Central Empire coin, almost to the exclusion of all else. Central Empire period X coin predominates, with between 50% and 77% at all sites. Central Empire period XI coin falls below 25% at just one site. The overall picture is closer to that recorded for Italy than for any other area encountered. However, even here, the Central Empire period XI coin is less plentiful than in Italy.

Other types of coin were recorded within the larger assemblages. The largest was Athens, where just three Gallic Empire and one barbarous radiate were recorded. At Corinth, the second largest, two Gallic Empire coins were listed. It is concluded that Gallic Empire types and barbarous radiates were present within the coinage pool here, but in very low proportions.

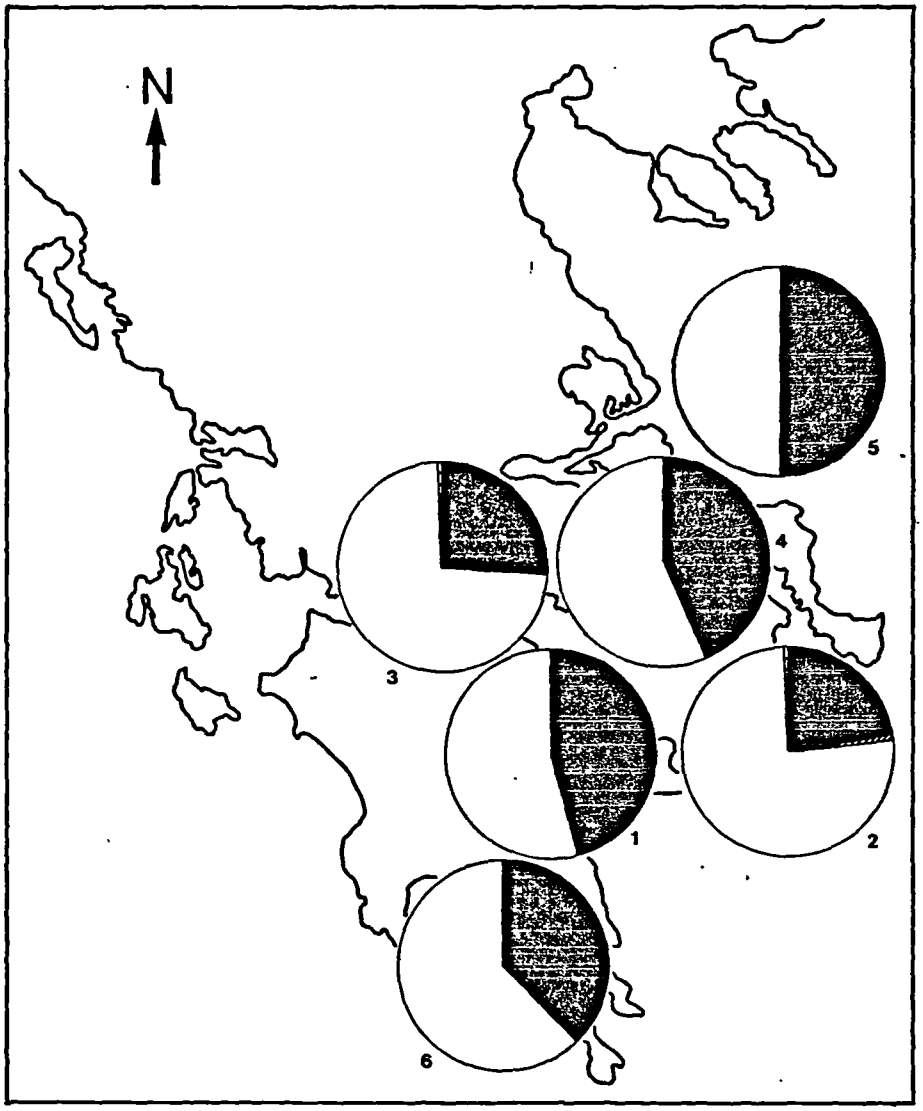


Fig.14:9 Map of coin types found in Greece

Africa (figure 14:10)

A number of coin lists from the North African site of Carthage have been studied. These lists were prepared from the excavations at the site, during the 1970's, by the University of Michigan (Buttrey 1976; Buttrey and Hitchner 1978). The coin total for the site is appreciable, with Roman coins accounting for 1,330 of the 7,076 coins recovered. Despite this high total, just fifty-two belong to issue periods X and XI, which is a mere 3.9% of the Roman coin total. This immediately suggests the probability of an official coin shortage over those years.

There is a pattern in the coin recovery not recorded in other areas. The issues of Gallienus which are normally ubiquitous are few in number. The numbers only begin to increase under Claudius II. The Central Empire period X coins comprise 34.6% of the Roman total. Central Empire period XI types are completely absent.

With these notable gaps in the regular coin supply it is particularly interesting to contrast the proportion of irregular coins present. Barbarous radiates were present among the coins of every season of excavation. They total 28, which is 53.8% of the Roman coin total. A small number of Gallic Empire coins were also present each year, accounting for 9.6%. It is interesting to note the irregular coin types present. The types most commonly encountered on British and Gallic sites have been documented in chapters 6-11. In those sites, Gallic Empire types dominated, with copies of the Tetrici most common. At Carthage, twenty of the copies were legible. Ten of these were Tetrican types, while the other half were Central Empire copies; all based on the Consecratio, altar, original of Claudius II.

Therefore, half of the identifiable barbarous radiates are copies of coins which were rare locally; which originated in Gaul. It is thought to be most likely that those imitations were produced elsewhere. If imitations were produced locally it would be more likely that they would have copied the most common coins in circulation; namely the Central Empire period X coins. It is probable therefore that the high proportion of Central Empire imitations recorded at Carthage do reflect a degree of local production, perhaps supplemented by other imitations from elsewhere, which may have arrived here alongside the small number of official Gallic Empire coins also recorded.

In conclusion, the picture from Carthage shows a shortage in the official coin supply, which became acute in period XI. Barbarous radiates and some Gallic Empire coinage appear to have been used to supplement the coinage pool. Some of the irregular coin would have been produced locally and others are more likely to have been produced in Gaul, subsequently entering Africa perhaps via trade.

Other evidence from north Africa

Although comparable site coin lists from Africa are not readily accessible, some hoards from the country are known. The study of these hoards provides a useful back-up to the information recorded from Carthage. A similar pattern can be seen to emerge, with Consecratio issues again predominating.

J.-P.Callu noted the predominance of the Divo Claudio, Consecratio issues in north Africa in his report on a hoard from Thamusida III (Callu 1974). This was a hoard of eighty-eight coins, of which half were Consecratio issues; twenty

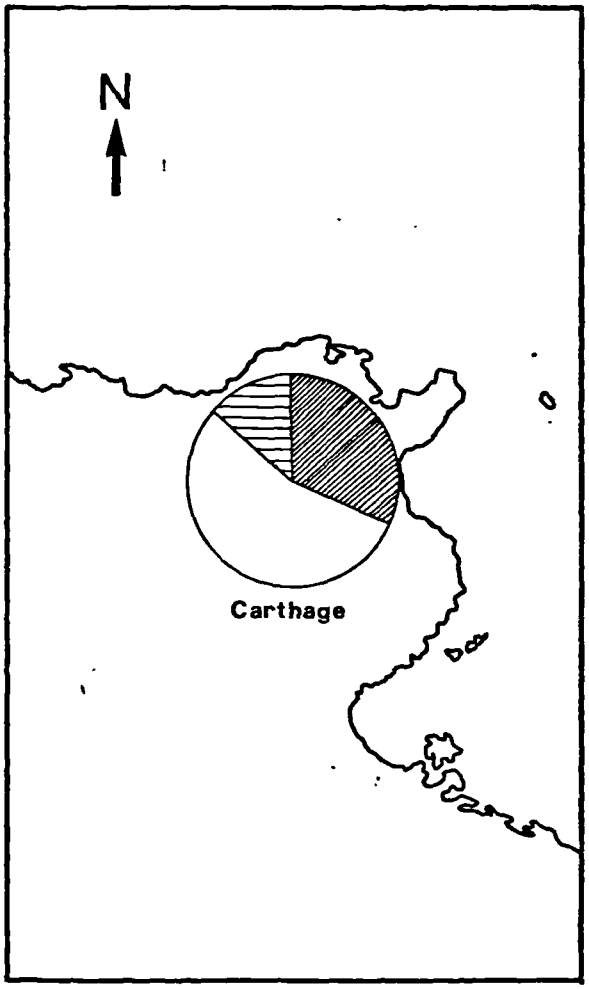


Fig.14:10 Map of coin types found at Carthage

depicting the eagle and twenty-four the altar. Seven other coins were pre-266 AD and the latest dated to 270. The Consecratio types dominated the coin of a restricted period.

Other late-third century African hoards show a similar predominance. The numbers and percentages of Consecratio issues within the hoards are shown in each case (all taken from Callu 1974).

Morocco: Banasa II - 17 out of 26 coins (65%).
Banasa III - 21 of 33 coins (64%).
Banasa IV - 47 of 62 coins (76%).
Banasa V - 27 of 79 coins (34%).

Algeria: Tighzirt - 108 of 116 coins (93%).

Libya: Gasr Selim - 676 of 874 coins (77%).

The following examples are all taken from Salama, 1974.

Algeria: Tenes - 195 of 740 coins (76%).
Tipasa - 33 of 94 coins (35%).

Tunisia: Fadhiline - 4122 of 4633 coins (89%). 326 barbarous radiates were also present.

Libya: Sabratha - 201 of 852 coins (24%). 613 Tetrican barbarous radiates were also present.

Tripolitania: Abbiar-Miggi - 925 of 3950 coins (23%). The rest were Tetrican barbarous radiates (3025 coins).

It is clear from the above figures that official Consecratio issues entered north Africa in great numbers. The picture appears to be consistent in all areas, apart from that of Mauretania Tingitana, as noted by Pierre Salama (1974). That province was situated very close to Spain and its coinage shows closer affinities to the sites of Iberia. Salama has also drawn attention to the rarity of issues of the period XI emperors in Africa - Probus, Tacitus, Florian, Carus, Carinus and Numerian - as has been noted above in relation to Carthage.

The shortage of Central Empire coinage other than Consecratio issues is conclusive. It is considered that many of these coins could have been irregular, although not recognised as such. This coin type was supplemented by barbarous radiates, as shown by the hoards of Fadhiline, Sabratha and Abbiar-Miggi. It has been suggested that some of the irregular Consecratio coins were being manufactured in Africa. This conclusion is supported by illustrations of the examples from the hoard of Announa, in Algeria (Turcan 1972). Those examples have no resemblance to irregular coins found in Gaul or Britain. Their quality is very low indeed and it is unlikely that they would have travelled far from the point of manufacture. It was suggested above that other irregular coin would have originated in Gaul, entering Africa alongside regular Gallic Empire coins recorded there. There were traditionally strong links between Africa and Gaul during the Roman period. This is another example of the strong degree of contact which existed between the two areas.

The east

Coin lists from sites of the eastern provinces are not readily accessible in Britain. Details from a number of hoards have again been used in order to supplement the data from this area. These provinces will now be considered in three sections. The first is western Anatolia. The second is eastern Anatolia. The third is the Near East, comprising the provinces of Syria and Palestine.

Western Anatolia (figure 14:11)

Data from six sites and five hoards have been recorded. The assemblages from the sites are represented by pie-diagrams in figure 14:11. Three of the sites have small coin totals for the combined periods X and XI (under twenty coins) but all six do show a consistent picture. All have a predominance of Central Empire period X coin and contain very few Central Empire period XI examples. The latter are completely absent from Troy and comprise less than 7% at all of the other sites. Gallic Empire coins and barbarous radiates are present - notably within the larger assemblages - but in small numbers. At Aphrodisias barbarous radiates comprise virtually 30% of the total periods X and XI coin.

The hoard coins present a similar pattern. At four of the five examined there is a comparable predominance of Central Empire period X coin and shortage of period XI issues. The hoard from Ephesus is an exception, with period XI coin dominant over that of period X. However, this is a small hoard, of just thirty-eight pieces, and may represent some degree of selection in its composition. The general pattern within the hoards is consistent with that from sites. Barbarous radiates and Gallic Empire coin are represented at only the largest hoard (Canakkale). This would again suggest that they were present in circulation in small numbers in this area.

The overall picture in western Anatolia shows that Central Empire period XI coin was scarce and that barbarous radiates and Gallic Empire coins were present, albeit in small numbers, despite the distances from the sources of production of at least some of these coins. The main coin types in circulation were those of Central Empire period X. Were the barbarous

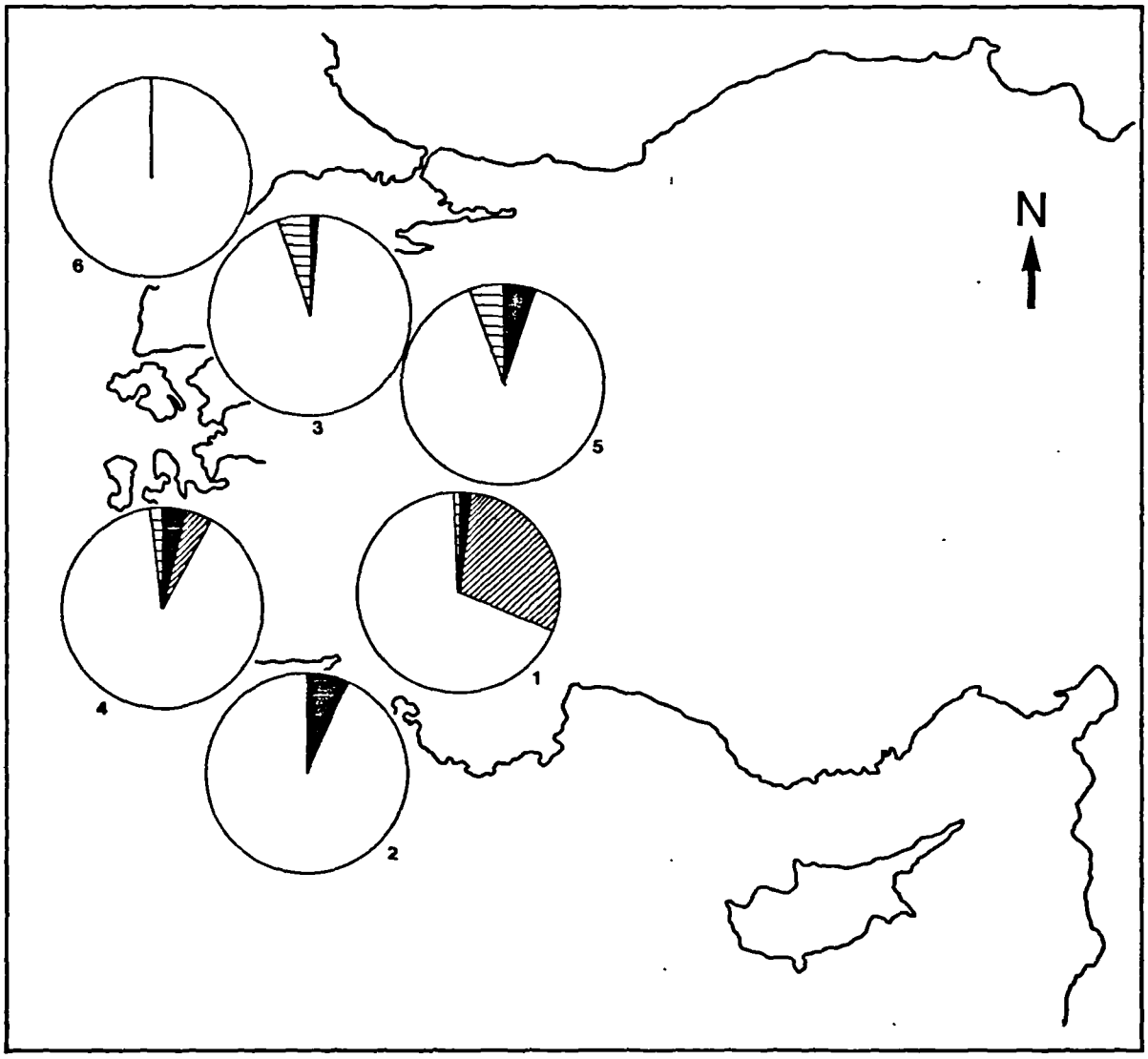


Fig.14:11 Map of coin types found in western Anatolia

radiates manufactured locally or were they introduced alongside the Gallic Empire types, from Gaul? At Aphrodisias, good imitations were accompanied by very different small, lighter crude copies (MacDonald 1974, 282). In the absence of a detailed personal inspection, it is considered likely that such a range of quality and style would reflect at least a degree of local production. However, an example from the hoard of Canakkale has been found to die-link with another from the Gallic hoard from Coesmes, proving that at least a proportion of the barbarous radiates circulating in Anatolia originated in Gaul (Lallemand 1970, 45-7).

Eastern Anatolia

Just one site collection has been documented, together with three hoards from this area. The site of Buyukkale and the Devret hoard show a similar picture to that from western Anatolia; showing a predominance of Central Empire period X coin and an absence of period XI. The other two hoards show the opposite situation. Each have over 90% Central Empire period XI coins and much less period X coin. It is difficult to draw conclusions from such restricted and contradictory data. It is possible that the latter hoards were selective and not representative of coin in general circulation. However, this would be a pure guess. It is shown that period XI coin was reaching the area and in none of the four collections were any barbarous radiates or Gallic Empire coins present.

The Near East

Data from three sites and six hoards from the Roman provinces of Syria and Palestine have been recorded. They show a consistent picture. There was a steady supply of regular coin

during periods X and XI, with no noted interruption. The sites of Antioch and Gerasa have roughly equal proportions each. At the site of Curium and in each of the four hoards, there is a dominance of Central Empire period XI over period X. Only in the hoards of Capharnaum and Syria H does period X coin predominate. There is a complete absence of barbarous radiates within the coin lists and just a single Gallic Empire coin has been recorded, from the site of Antioch.

Conclusion

The absence of Central Empire period XI coin in some areas has been recognised for many years. Harold Mattingly's concept of a resistance to the use of reform coinage of Aurelian was considered to be a likely explanation (Mattingly 1951). The analysis of coin lists by King subsequently showed that there was in fact an absolute shortage of post-reform coin in the west after AD 275 (King 1981). In this chapter it has been shown that the shortage of that coin was not only felt in the north-western provinces of the Empire, but also in many other areas.

Data from right across the Mediterranean world has been studied. Post-reform coin has been shown to have reached central Gaul, parts of southern Gaul, Greece, the Near East and possibly eastern Anatolia, in addition to Italy. In other areas, regular coin supply after 275 was sporadic or absent. The areas studied which did not received post-reform coinage are Britain, northern Gaul, Iberia, Bulgaria, Africa and western Anatolia. In some of these areas, including Britain, northern Gaul and Africa, barbarous radiates and Gallic Empire coin is found. Barbarous radiates tend to be found away from

the areas where Central Empire period XI coin was supplied, confirming that their use was a response to a coin shortage. In other places, such as Iberia, southern Gaul and Bulgaria the coinage pool remained low and nothing seems to have filled the void.

The situation seen right across the Empire with regard to the different types of coin is summarised in figure 14:12 (on which the areas covered by maps 14:2 to 14:11 have been marked). Three types of shading have been used; for Central Empire period X, Central Empire period XI and Gallic Empire and barbarous radiate coinage. It is clearly shown that the coinages of Central Empire period XI and barbarous radiates with Gallic Empire circulated in distinct areas.

There is one category of coin that has not yet been considered in this chapter. Greek Imperial coins were struck at city mints in the eastern provinces of the Roman Empire and represented a substantial proportion of the coin that circulated in those areas. There are many problems surrounding aspects of the Greek Imperials. There is an initial problem of mint attribution (Weder and King 1984). Secondly, we are not certain just what was the function of these issues and how they fitted into the Roman economy (Jones 1963). The circulation of these coins would have affected the necessity for coin supply to the east but by the period in question, much of this production had already come to an end. The reign of Gallienus saw the end of many local coinages, although a number of mints, mainly in Cilicia, did continue until the reign of Tacitus, in 275-6. The role played at this time by Greek Imperial coinage is beyond the scope of this study. Whatever their function, it is still a valid observation that Roman issues did not flow into certain eastern areas in period XI and that some

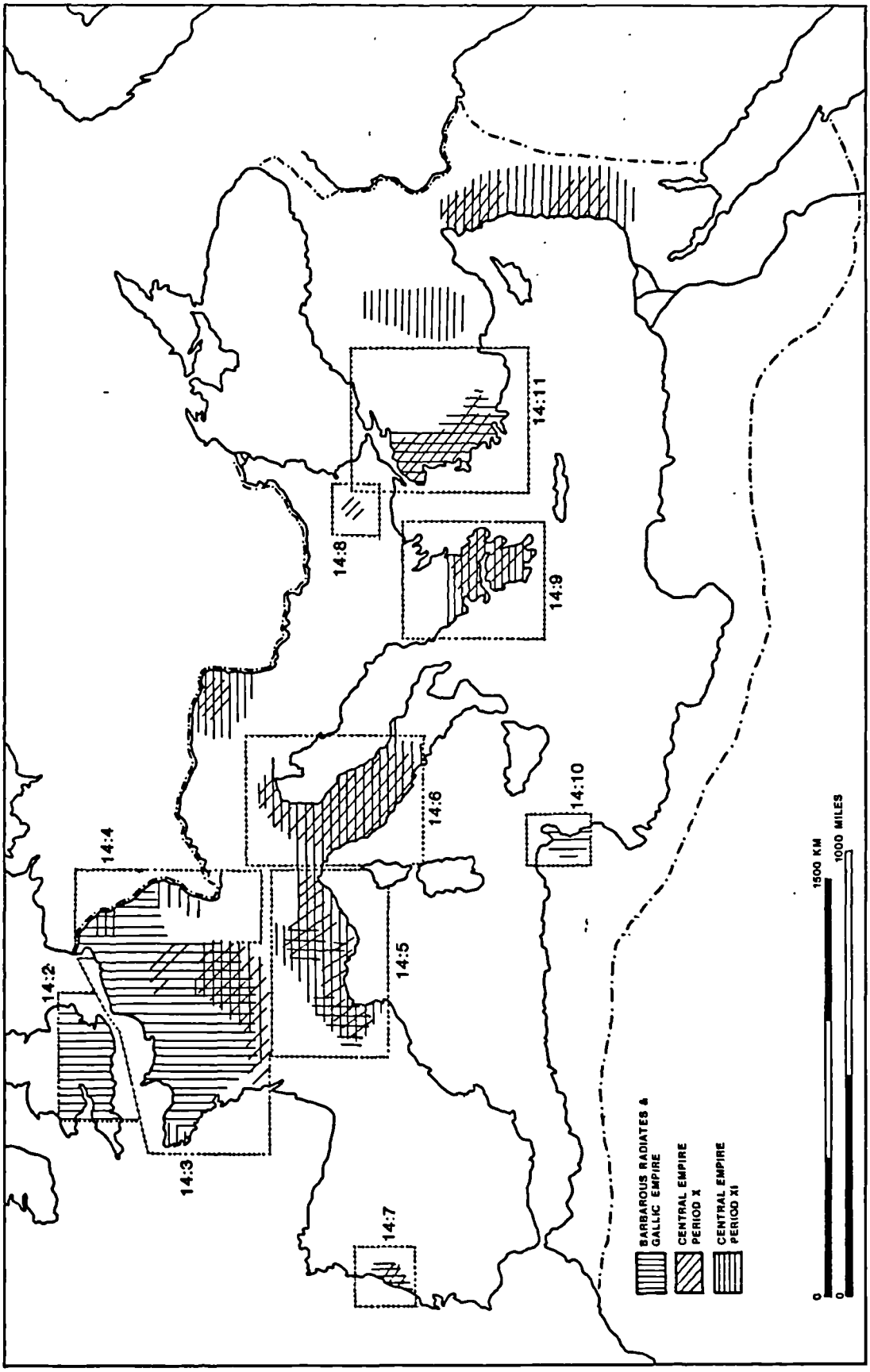


Fig.14:12 Map summarising the coinage used in different parts of the Empire

barbarous radiates were used, in limited numbers.

Why was the official coin of period XI sent to some areas and not to others? It could be the case that coin supply was related to military activity in specific areas. For example, the area of Syria, Palestine and eastern Anatolia (Cappadocia/Cilicia) which did received post-reform coin was the same area which had come under the influence of Queen Zenobia of Palmyra and who was crushed by Aurelian in 273. It may have been the effect of the direct Imperial presence in the area which resulted in the flow of coin specifically to this area. Conversely, it is clear that some areas which were quiet militarily did not have a good period XI coin supply. Such areas were Iberia and north Africa. A fuller investigation would require a correlation between the dated issues present in particular provinces and detailed study of all military activity. However, there does appear to be some degree of correlation to support this hypothesis.

The main conclusion from this chapter has been that barbarous radiates are found, in varying quantities, right across the Empire, in places where post-reform coin is absent in quantity. It is considered that the manufacture of these irregular coins in provinces other than Britain and Gaul was on a much smaller scale and that numbers were supplemented by the use of others from those places, as indicated by the association of Gallic Empire types. However, the scale of production elsewhere cannot be estimated solely from the limited evidence reviewed here. In other areas the coinage pool remained low and irregular coin was not used to supplement the deficiency. King has noted that, ' distinct (if not yet identifiable) set of local circumstances stimulated the production of copies in...large numbers' in certain areas (King

1981, 94).

The evidence reviewed in this chapter has added to the understanding of the context in which barbarous radiates circulated. Other forms of evidence from previous chapters, with particular reference to Britain, will now be drawn together for fuller discussion in the final chapters.

Appendix to chapter 14

A list of coin numbers for the years between AD 259-94, for the sites cited and mapped in this chapter.

BRITAIN

Site	C.E. Period X		Gallic Empire		C.E. Period XI		British Empire		Barb.Rads.		1.Total Periods X & XI	2.Assembl. Total	% of 1 to 2	Reference
	No.	%	No.	%	No.	%	No.	%	No.	%				
SOUTH EAST														
1 Canterbury	188	24.1	326	41.8	8	1.0	79	10.1	178	22.8	779	1845	42.2	Reece 1972
2 Richboro.	1815	20.5	2939	33.2	119	1.3	1616	18.2	2364	26.7	8853	51726	17.1	" "
3 London														
- G-hall Mus.	33	23.9	52	37.7	8	5.8	0	-	45	32.6	138	?	-	Pers.inspection
- City Mus.	48	30.8	93	59.6	12	7.7	0	-	3	1.9	156	?	-	" "
- Early excvs.	86	28.7	72	24.0	10	3.3	112	37.3	20?	6.7	300	1735	17.3	Roach-Smith 1859*
* "200 minim" recorded by Roach-Smith have been omitted. Appear to be a hoard. Does not specify whether third or fourth century.														
- New Fresh Wharf	0	-	0	-	0	-	0	-	1	-	1	33	-	Hall 1986
- Total	167	28.1	217	36.5	30	5.0	112	18.8	69	11.6	595	?	-	
4 Lullingstone Villa	7	21.9	8	25.0	0	-	12	37.5	5	15.6	32	327	9.8	Reece 1972

VERULAMIUM AREA

5	Verulamium													
	- Frere	117	18.6	251	39.9	4	0.6	69	10.9	188	29.9	629	1603	39.2	Reece 1972
	- Wheeler	232	24.6	379	40.2	7	0.7	162	17.2	162	17.2	942	1503	62.7	" "
	- Theatre	306	27.7	488	44.2	6	0.5	93	8.4	211	19.1	1104	3512	31.4	" "
	- Lord Verulam	205	21.0	300	30.7	8	0.8	98	10.0	367	37.5	978	2368	41.3	" "
	- Total	760	20.8	1418	38.8	25	0.7	422	11.6	928	25.4	3653	8986	40.7	" "
6	Northchurch	2	13.3	9	60.0	0	-	1	6.7	3	20.0	15	27	55.6	Curnow 1977
7	Boxmoor ('66-'70)	17	24.6	22	31.9	2	2.9	6	8.7	22	31.9	69	106	65.1	" "
8	Latimer	4	14.3	10	35.7	0	-	1	3.6	13	46.4	28	39	71.8	Robinson 1971
9	Gadebridge Park	20	27.8	24	33.3	0	-	10	13.9	18	25.0	72	309	23.3	Curnow 1974

CENTRAL - SOUTH

10	Silchester													
	- main catalg.	847	30.2	890	31.7	21	0.7	300	10.7	748	26.7	2806	8241	34.0	Boon 1954
	- Stratfield Saye	304	29.2	332	31.9	19	1.8	159	15.3	226	21.7	1040	4314	24.1	" "

- Total	1151	29.9	1222	31.8	40	1.0	459	11.9	974	25.3	3846	12555	30.6	" "
11 Portchester	14	23.3	10	16.7	1	1.7	29	48.3	6	10.0	60	384	15.6	Reece 1972
12 Neatham	74	18.2	111	27.3	1	0.2	11	2.7	210	51.6	407	769	52.9	Merson 1986
13 Chichester	5	13.9	10	27.8	0	-	4	11.1	17	47.2	36	?	-	Down 1971 & 1974
14 Winchester	66	17.6	120	32.1	2	0.5	29	7.7	157	42.0	374	792	47.2	Reece 1972
15 Clausentum														
- Cotton	10	32.3	10	32.3	0	-	2	6.5	9	29.0	31	43	72.1	Pearce 1958
- Gathercole	0	-	0	-	0	-	0	-	2	-	2	4	-	Sherlock 1958
- Total	10	30.3	10	30.3	0	-	2	6.1	11	33.3	33	47	70.2	
16 Chilgrove	10	25.0	15	37.5	0	-	2	5.0	13	32.5	40	307	13.0	Down 1979
17 Fishbourne	17	23.6	24	33.3	0	-	6	8.3	25	34.7	72	224	32.1	Reece 1972
18 Lowbury Hill	61	39.1	47	30.1	6	3.8	8	5.1	34	21.8	156	873	17.9	Davies 1985
WEST														
19 Wanborough	80	20.9	119	31.1	9	2.4	38	9.9	136	35.6	382	1735	22.0	Reece 1972
20 Sea Mills	19	21.8	41	47.1	4	4.6	8	9.2	15	17.2	87	596	14.6	" "
21 Cirencester														
- Excvn.	27	20.3	42	31.5	2	1.5	21	15.8	41	30.8	133	1214	10.9	" "
- Museum	319	24.6	471	36.2	32	2.5	242	18.6	235	18.1	1299	6606	19.7	" "
- Total	346	24.2	513	35.8	34	2.4	263	18.4	276	19.3	1432	7820	18.3	" "

22	Chedworth Villa	20	29.9	26	38.8	1	1.5	9	13.4	11	16.4	67	305	21.9	" "
23	Henley Wood	27	30.0	44	48.8	3	3.3	1	1.0	15	16.6	90	217	41.4	" "
24	Nettleton	59	22.6	91	34.9	3	1.1	19	7.3	89	34.1	261	1798	14.5	" "
25	Kingscote	13	21.3	7	11.5	1	1.6	4	6.6	36	59.0	61	338	18.0	" "
26	Lydney	17	30.9	13	23.6	0	-	9	16.4	16	29.1	55	94	58.5	Wheeler 1932
NORTHERN AREAS															
27	Segontium	48	20.8	56	24.2	27	11.7	1	0.4	74	32.0	231	981	23.5	Boon 1976
28	Thistleton	14	29.8	17	36.1	0	-	1	2.1	15	31.9	47	32.3	14.5	Reece 1972
NORTH & CENTRAL GAUL															
1	Alet	9	8.4	11	10.3	0	-	0	-	87	81.3	107	197	54.3	King 1981
2	Argentomagus	3	20.0	4	26.7	0	-	0	-	8	53.3	15	116	12.9	" "
3	Conde-sur-Aisne	36	26.1	24	17.4	6	4.3	0	-	72	52.2	138	4222	3.1	" "
4	Guiry Gadancourt	12	8.0	5	3.3	3	2.0	0	-	130	86.7	150	208	72.1	" "
5	Keradennac	2	18.2	2	18.2	1	9.1	0	-	6	54.5	11	20	55.0	" "

6	Rhus	1	2.6	5	13.1	0	-	0	-	32	84.2	38	137	27.7	"	"
7	Soissons	3	30.0	3	30.0	0	-	0	-	4	40.0	10	122	8.1	Reece	1973
8	Therouanne	13	3.6	17	4.7	0	-	0	-	332	91.7	362	383	94.5	King	1981
9	Vallangoujard	10	7.8	28	21.7	2	1.6	1	0.7	89	68.9	129	240	53.7	"	"
10	Plougnerneau	4	26.7	6	40.0	5	33.3	0	-	0	-	15	88	17.0	"	"
11	Autin	10	20.4	10	20.4	18	36.7	1	2.0	10	20.4	49	192	25.5	Reece	1973
12	Auxerre	177	55.7	108	33.3	17	5.3	1	0.3	15	4.7	318	507	27.0	"	"
13	Avallon	149	53.8	65	23.4	60	21.7	2	0.7	1	0.3	277	1176	23.5	"	"
14	Bourges	139	19.8	404	57.5	159	22.6	1	0.1	0	-	703	2106	33.4	"	"
15	Chatillon-sur-Seine	5	14.7	9	26.5	19	55.9	0	-	1	2.9	34	159	21.3	"	"
16	Dijon	512	47.3	224	20.7	298	27.5	2	0.1	46	4.2	1082	4823	22.4	"	"
17*	Langres	146	39.5	107	28.9	115	31.1	2	0.5	0	-	370	1923		"	"
18*	Sens	98	34.4	98	34.4	75	26.3	0	-	14	4.9	285	1128		"	"
*Combined figures																
19	Poitiers	47	30.5	38	24.7	69	44.8	0	-	0	-	154	881	18.7	"	"
20	Verdun	119	35.0	107	31.5	78	22.9	0	-	36	10.6	340	1494	22.7	"	"
EASTERN GAUL - RHINE																
1	Altrier	39	21.5	27	14.9	8	4.4	0	-	107	59.1	181	428	42.3	King	1981

2	Alzey	38	33.9	34	30.3	16	14.3	0	-	24	21.4	112	1105	10.1	" "
3	Belfort	19	41.3	17	36.9	10	21.7	0	-	0	-	46	306	15.0	Reece 1973
4	Bingen	16	17.4	60	65.2	15	16.3	0	-	1	1.1	92	388	23.7	King 1981
5	Bingerbruck	5	20.8	15	62.5	3	12.5	0	-	1	4.2	24	118	20.3	" "
6	Dalheim	151	13.5	152	13.5	24	2.1	1	0.08	793	70.7	1121	3901	28.7	" "
7	Eisenberg	7	58.3	2	16.7	3	25.0	0	-	0	-	12	125	9.6	" "
8	Haguenau	11	35.5	6	19.3	6	19.4	0	-	8	25.8	31	174	17.8	Reece 1973
9	Halberg	24	33.3	12	16.6	1	1.4	0	-	35	48.6	72	230	30.9	King 1981
10	Hellange	9	39.1	1	4.4	2	8.7	0	-	11	47.8	23	177	13.0	" "
11	Kreimbach	19	27.1	22	31.4	3	4.3	0	-	26	37.1	70	522	13.4	" "
12	Lamberg	1	6.3	3	18.7	1	6.3	0	-	11	68.7	16	161	9.9	" "
13	Mainz	57	27.1	68	32.4	50	23.8	0	-	35	16.7	210	1483	14.2	" "
14	Pachten	23	31.5	19	26.0	10	13.7	0	-	21	28.8	73	343	21.3	" "
15	Rhine Valley	56	29.3	48	25.1	72	37.7	0	-	15	7.8	191	472	40.4	Reece 1973
16	Rheinzabern	24	39.3	23	37.7	8	13.1	0	-	6	9.8	61	1239	4.9	King 1981
17	Schwarzenacker	9	24.3	10	27.0	2	5.4	0	-	16	43.2	37	198	18.7	" "
18	Selestat	20	64.5	1	3.2	7	22.6	0	-	3	9.6	31	157	19.7	Reece 1973
19	Speyer	32	40.0	17	21.2	14	17.5	0	-	17	21.2	80	905	8.8	King 1981
20	Steinsel	7	7.0	28	28.0	5	5.0	0	-	60	60.0	100	688	14.5	" "

21	St Ulrich	13	52.0	3	12.0	1	4.0	0	-	8	32.0	25	69	36.2	" "
22	Tetelbierg	109	9.3	199	17.0	15	1.3	1	0.08	845	72.3	1169	3800		" "
23	Trier	139	20.0	139	20.0	11	1.6	1	0.1	407	58.5	696	4314	16.1	" "
24	Vindonissa	146	53.7	43	15.8	49	18.0	0	-	39	14.3	272	2318	11.7	" "
25	Waldfrishbach	0	-	12	54.5	1	4.5	0	-	9	40.9	22	316	7.0	" "
26	Widdebierg	66	28.2	20	8.5	18	7.7	0	-	130	55.5	234	812	28.8	" "
27	Worms	6	54.5	5	45.5	0	-	0	-	0	-	11	277	4.0	" "
	SOUTHERN GAUL														
1	Aix-en-Provence	12	33.3	12	33.3	12	33.3	0	-	0	-	36	301	12.0	Reece 1973
2	Arles	32	71.1	4	8.9	3	6.7	0	-	6	13.3	45	852	5.3	" "
3	Banon	13	81.2	3	18.7	0	-	0	-	0	-	16	495	3.2	" "
4	Camp Ferrus	0	-	5	31.2	0	-	0	-	11	68.7	16	869	1.8	King 1981
5	L'Escale	73	68.2	14	13.1	12	11.2	1	0.9	7	6.5	107	495	21.6	Reece 1973
6	Glanum	15	83.3	0	-	3	16.7	0	-	0	-	18	445	4.0	King 1981
7	Marseille	15	60.0	1	4.0	8	32.0	0	-	1	4.0	25	833	3.0	" "
8	Montmaurin	36	39.6	11	12.1	4	4.4	0	-	40	43.9	91	527	17.2	" "
9	Montpellier	233	63.7	64	17.5	64	17.5	0	-	5	1.4	366	3973	9.2	" "
10	Nimes	186	45.4	81	19.8	139	33.9	4	1.0	0	-	410	2552	16.1	Reece 1973

11	Perpignan	261	39.9	254	38.8	132	20.2	1	0.1	6	0.9	654	3210	20.3	"	"
12	Toulouse	11	9.4	67	57.2	38	32.5	1	0.8	0	-	117	2855	5.0	"	"
13	Vienne	304	42.0	170	23.5	241	33.3	0	-	8	1.1	723	2807	25.8	"	"
	NORTHERN ITALY															
1	Adria	1	14.1	0	-	6	85.7	0	-	0	-	7	214	3.3	Reece 1971 & 1973	
2	Aquileia	1403	49.4	117	4.1	1319	46.4	3	0.1	0	-	2842	13858	20.5	"	" "
3	Arezzo	28	28.0	6	5.6	72	72.0	0	-	0	-	100	771	7.7	"	" "
4	Bolognia	889	25.8	215	6.2	2332	67.7	10	0.3	0	-	3446	17977	19.2	"	" "
5	Cividale	41	36.3	7	6.2	65	57.5	0	-	0	-	113	715	15.8	"	" "
6	Cortona	58	36.7	22	13.9	78	49.4	0	-	0	-	158	1375	7.3	"	" "
7	Este	15	38.5	1	2.6	23	59.0	0	-	0	-	39	823	4.7	"	" "
8	Faenza	35	28.7	2	1.6	85	69.7	0	-	0	-	122	848	14.4	"	" "
9	Padova	108	30.2	20	5.6	228	63.7	2	0.5	0	-	358	3124	11.4	"	" "
10	Pavia	812	53.8	48	3.2	649	43.0	1	0.1	0	-	1510	4361	34.6	"	" "
11	Portogruaro	52	25.0	9	4.3	146	70.2	1	0.4	0	-	208	942	22.1	"	" "
12	Ravenna	39	26.4	5	3.4	104	70.3	0	-	0	-	148	1520	9.7	"	" "
13	Tiber	202	28.3	4	0.6	509	7.12	0	-	0	-	715	9141	7.8	"	" "
14	Udine	40	29.4	16	11.8	78	57.4	2	1.5	0	-	136	1068	12.7	"	" "

15	Venezia	58	35.2	7	4.2	100	60.0	0	-	0	-	165	1763	9.3	"	"
16	Verona	360	26.2	120	8.7	874	63.7	19	1.4	0	-	1373	9383	14.6	"	"
SPAIN - PORTUGAL																
	Barcino	35	74.5	2	4.2	2	4.3	0	-	8	17.0	47	260	18.1	King	1981
	Casa Italicense	3	75.0	0	-	0	-	0	-	1	-	4	19	21.0	"	"
	Casa Del Planetario	9	90.0	0	-	1	10.0	0	-	0	-	10	105	9.5	"	"
	Conimbriga	1530	92.3	57	3.4	21	1.3	0	-	49	3.0	1657	4304	38.5	"	"
	Menorca	25	83.3	0	-	2	6.7	0	-	3	10.0	30	414	7.2	"	"
	Rhode	10	90.9	0	-	1	9.1	0	-	0	-	11	99	11.1	"	"
	Tarraco	229	87.1	12	4.5	12	4.6	0	-	10	3.8	263	338	79.6	"	"
BULGARIA																
	Chatalka Villa - Delimonyoro Kale	25	89.3	0	-	3	10.7	0	-	0	-	28	230	12.2	D.Nikolov	1976
	Delimonyoro Niva	8	100	0	-	0	-	0	-	0	-	8	41	19.5	"	"

	- Total	33	91.7	0	-	3	8.3	0	-	0	-	36	271	13.3	"	"
	BALKANS															
	Ragevo														D.J.MacDonald	
	Hoard	4013	99.6	6	0.1	17	0.4	0	-	0	-	4019	4030	-	1974	
	HUNGARY															
	Brigetio	248	72.3	6	1.7	81	23.6	0	-	8	2.3	343	?	-	K.Biro-Sey 1977	
	GREECE															
1	Argos	6	54.5	0	-	5	45.5	0	-	0	-	11	?	-	D.J.MacDonald 1978	
2	Athens	536	76/8	3	0.4	158	22.6	0	-	1	0.1	698	?	-	Thompson 1954	
3	Corinth	215	73.1	2	0.7	77	26.2	0	-	0	-	294	?	-	D.J.MacDonald 1978	
4	Kenchreai	13	56.5	0	-	10	43.5	0	-	0	-	23	?	-	R.Holhfelder 1978	
5	Megalopolis	6	50.0	0	-	6	50.0	0	-	0	-	12	?	-	D.J.MacDonald 1978	

6	Sparta	5	62.5	0	-	3	37.5	0	-	0	-	8	?	-	" "
	NORTH AFRICA														
	Carthage														
	1975	6		2		0	-	0	-	1		9			T.V.Buttrey 1976
	1976	6		1		0	-	0	-	6		13			T.V.Buttrey & R.B.Hitchner 1978
	1977	1	8.3	1	8.3	0	-	0	-	10	83.3	12			W.E.Metcalf 1980
	1978	5	27.8	1	5.6	0	-	0	-	11	61.1	17			W.E.Metcalf 1982
-	Total	18	34.6	5	9.6	0	-	0	-	28	53.8	51	1330	3.9	
	WESTERN ANATOLIA														
1	Aphrodisias	143	67.5	2	0.9	4	1.9	0	-	63	29.7	212	402	52.7	D.J.MacDonald 1976
2	Ephesus	14	93.3	0	-	1	6.7	0	-	0	-	15	?	-	D.J.MacDonald 1974
3	Pergamum	90	93.8	5	5.2	1	1.0	0	-	0	-	96	?	-	" "
4	Priene	50	91.0	1	1.8	2	3.6	0	-	2	3.6	55	?	-	" "
5	Sardis	15	88.2	1	5.9	1	5.9	0	-	0	-	17	?	-	" "
6	Troy	16	100	0	-	0	-	0	-	0	-	16	?	-	" "

EASTERN ANATOLIA															
Buyukkale	18	90	0	-	2	10	0	-	0	-	20	?	-	"	"
HOARDS															
W.Anatolia															
1 Canakkale	2979	97.8	34	1.1	5	0.2	0	-	29	1.0	3047	-	-	"	"
2 Ephesus	6	15.8	0	-	32	84.2	0	-	0	-	38	-	-	"	"
3 Selendi	7	100	0	-	0	-	0	-	0	-	7	-	-	"	"
4 Smyrna	576	98.3	0	-	10	1.7	0	-	0	-	586	-	-	"	"
5 Troy	180	82.6	0	-	38	17.4	0	-	0	-	218	-	-	"	"
E.Anatolia															
1 Ankara	3	0.5	0	-	573	99.1	0	-	0	-	578	-	-	"	"
2 Antioch Pisidiae	119	7.1	0	-	1549	92.9	0	-	0	-	1668	-	-	"	"
3 Devret	523	100	0	-	0	-	0	-	0	-	523	-	-	"	"
NEAR EAST															
1 Antioch	159	54.8	1	0.3	130	44.8	0	-	0	-	290	?	-	"	"

2	Curium	6	16.7	0	-	30	83.3	0	-	0	-	36	?	-	"	"
3	Gerasa	15	60.0	0	-	10	40.0	0	-	0	-	25	?	-	"	"
	HOARDS															
1	Capharnaum	1274	100	0	-	0	-	0	-	0	-	1274	-	-	"	"
2	Nahr Ibrahim	717	13.7	0	-	4501	86.3	0	-	0	-	5218	-	-	"	"
3	Syria B	62	8.8	0	-	639	91.2	0	-	0	-	701	-	-	"	"
4	Syria H	369	99.7	0	-	1	0.3	0	-	0	-	370	-	-	"	"
5	Syria P	32	23.5	0	-	104	76.5	0	-	0	-	136	-	-	"	"
6	Tiberias	19	19.4	0	-	79	80.6	0	-	0	-	98	-	-	"	"

Chapter 15. Conclusions from the study

When this thesis was first planned in 1980 it was envisaged that a detailed study of Roman site coin assemblages would allow the allocation of many barbarous radiates to new mint groupings across the study area and it was also hoped that the locations of at least some of the 'mints' might become apparent. The success achieved by H.B.Mattingly in recognising die-groups within hoards had indicated that a systematic study of site finds on the scale planned here could produce comparable results. Following initial study of some large collections it soon became apparent that die-linking was not to be encountered as frequently among site finds as had been hoped and expected. Die-links had become well-diluted in circulation and even the largest collections proved disappointing in this respect. Unlike hoards, the barbarous radiates present at each site represent the whole range of types that were used; from earliest types through to the very latest issues. Some may have been struck in Gaul, some in Britain and most are now badly worn. The number present on each site that had been struck at the same time and are fully legible for study is only very few, in each case. Thus there are fewer contemporary examples present within a site collection than within most hoards of comparable size, which are more likely to contain contemporary or near-contemporary coins. At no point in this study did die-groups begin to show up in significant numbers, despite the increasing and very large body of comparative data, including photographs, being accumulated.

Each Roman coin recovered from an archaeological site represents hundreds, perhaps thousands, of others which were

not lost but which circulated at the site (Casey 1974b, 38). The proportion of barbarous radiates recovered from the original number in circulation has not been sufficiently high to reveal die-groups. In the case of hoards there is a greater chance that coins from a common source have not been separated. For this reason, more emphasis has been given to style-association in chapters 5-10 than had been originally intended, in order to try to reconstruct mint groupings. More emphasis has also been given to other categories of information, including published coin lists and hoards, which have served to construct a framework for the overall interpretation of this coinage. Although the categories of information presented are not as had originally been planned, a very substantial amount of information has been accumulated and presented, which forms the basis of an intensive and systematic study of barbarous radiates in southern England. In this chapter some of the main conclusions will be pulled together. Then, some of the ideas conceived about this coinage in preceding chapters will be developed and a revised theoretical framework for their manufacture and use will be presented.

The patterns within barbarous radiate site collections

Some observations have been made which apply to all site collections in the study area. In particular, the pattern of coin types encountered has remained remarkably consistent. Copies of the Tetrici always predominate over those of Victorinus, which are the second most numerous category. Victorinus copies are outnumbered by Tetrican types in a ratio of between approximately 5:1 and 10:1, in collections studied. The most common type present in all collections is the Tetrican

Pax Aug, followed by Salus Augg, Spes and Pietas Augg, with Fides Militum, Laetitia Augg, Victoria/Comes Aug and Virtus Augg slightly less common. The Tetrican types Princ Ivvent and Nobilitas Augg are very rarely encountered. The most common Victorinus type is Invictus, which is present in almost all collections, in varying proportions. Then come Victorinus' Pax Aug and Virtus Aug. Central Empire copies can be expected to comprise between 5% and 20% of imitations, with the overwhelming majority being Divo Claudio types, most belonging to the 'altar' variety. The proportion of minims (13 mm and below) can be affected by recovery factors. Most commonly, these comprise between 20% and 30% of collections, with some regional variation detectable (see below). Other individual types are less common. Unique variations of these categories are present in all collections. The range of types present and their relative proportions remain relatively constant within many hoards, even those comprising the later minim types, such as that from Witham, Essex (chapter 10, figure 10:16).

Barbarous radiate types were almost exclusively copied from official coin types and their derivatives. It is considered that the relative proportions of irregular types mirrored the most common official coin types in circulation. There was no significant attempt to invent new reverse types on this coinage. Regular types were adhered to through successive stages of copying. The worst cases of unrecognisable types resulted from copying previous imitations. Poorer types are more common among later copies. There was always an attempt to retain the features of the official coinage, with the radiate crown always present. These observations reinforce the overall picture of a coinage struck to supplement and circulate alongside the regular coinage in circulation.

There was no overall precise weight standard adhered to. Although this aspect has not been studied in relation to worn site finds, investigation of the die-groups within the Sussex minim hoards shows this clearly (chapter 9). Study of die-axes suggests that there was some attempt to align dies. When the overall lack of precision within the regular coinage at this time is considered, the results obtained in chapter 6 indicate that alignment was attempted even among minims. This observation further underlines how the coin makers tried to emulate the characteristics of the official coinage.

Coin sizes

During the course of chapters 6 to 10 the coin diameters among individual site collections have been summarised in graphs. Some diversity has been observed across the country. Figure 15:1 shows the relative percentages of different coin sizes present at some larger sites from the far west and from the far east of the study area. The graphs for these ten collections are shown in figure 15:2, with west country sites in the left-hand column and eastern sites on the right. A degree of variation between the two groups is immediately apparent from the contrasting shapes of the graphs.

The graphs shown are all constructed from percentage figures from each assemblage. In the west country column each site is shown to have two peaks within the size distribution. The first appears between 18 mm and 15 mm and the second at 12 mm or 11 mm. Between these dual peaks is a trough at 14 mm or at 13-12 mm. In the case of the south-east column, all graphs are bell-shaped, except for a slight trough in the case of Richborough. They show a rounded top at approximately 15 mm

and values fall-off more gently on either side than is the case for the western sites. The difference between these two groups is more clearly illustrated in figure 15:3, where each group has been combined within a single graph and the degree of variation within each has been shaded.

The explanation underlying this observation is far from clear but some difference is seen between the coinage pool used in each of the two areas. The smaller coins, of minim size and below, appear to have formed a slightly higher proportion of assemblages in the west than in the east. It has been seen in earlier chapters that minims, which represent the later phase of barbarous radiates, were used in significant numbers right across the country, including the south east. The higher percentages seen in the south west are also seen on some sites in other parts of England, which include Neatham (Hants), with 58% minims; Asthall (Oxon), with 56% minims; Stanford-in-the-Vale (Berks.), with 42% minims and Charleston Brow (Sussex) with 57% minims.

It has been shown in chapter 13 that the late-third century hoards were getting smaller over time, reflecting a coin and metal shortage, which was taking effect by the mid-270's. It was this metal shortage that was responsible for the diminution of irregular coin size in the later 270's. The higher proportion of smaller coins evidenced on western sites, and on some sites in the central counties, reflects the concept of scarcity. In these parts the coin shortage was felt more acutely and the number of coins required had to be manufactured from less available metal. The drop in coin size is still considered to have taken place roughly in step across the country but with more urgency in these areas. More minims in the west may also indicate that these coins had a longer life

Diameter (mm)	Cirencester Excavations	Sea Mills	Mildenhall (Cunetio)	Wanborough	Colliton Park	Canterbury Excavations	Richborough	Colchester Museum	Colchester Excavations	Canterbury (Frere)
24							0.1	0.2		
23					0.3		0.1		0.3	0.3
22		4.5			0.3	0.2	0.1	0.2	0.6	0.8
21				9.4	0.7	0.6	0.6	0.9		
20	0.4		0.8	2.2	0.3	1.3	1.6	1.7	2.5	2.0
19	3.5	9.1		3.6	3.8	5.2	3.0	5.1	5.1	3.8
18	5.8	9.1	3.2	10.7	6.6	9.4	8.3	11.9	10.4	4.8
17	8.6	9.1	4.8	10.3	15.2	12.4	11.8	15.5	14.4	7.8
16	12.8	31.8	16.7	12.9	12.4	13.9	13.9	15.6	16.3	15.7
15	12.8		18.3	13.4	10.3	17.0	15.1	14.4	14.9	15.9
14	10.9	4.5	14.3	8,9	7.6	14.8	12.7	9.0	10.1	15.9
13	12.1		8.7	9.8	12.4	7.6	15.2	7.0	8.5	12.2
12	13.6	18.2	8.7	12.1	12.4	7.6	9.5	6.2	7.3	8.9
11	7.0	9.1	13.5	2.7	10.0	5.2	4.4	5.3	3.4	6.1
10	4.7	4.5	4.8	2.2	4.1	2.6	2.1	4.5	3.9	4.1
9	3.1		5.6	1.3	2.1	1.7	1.0	1.2	1.4	0.8
8	3.1		0.8		0.7	0.6	0.3	0.8	0.8	1.0
7	1.2			0.4	0.3	0.2	0.2	0.4		
6	0.4				0.3			0.1		

Fig.15:1 Relative coin sizes from western and eastern sites

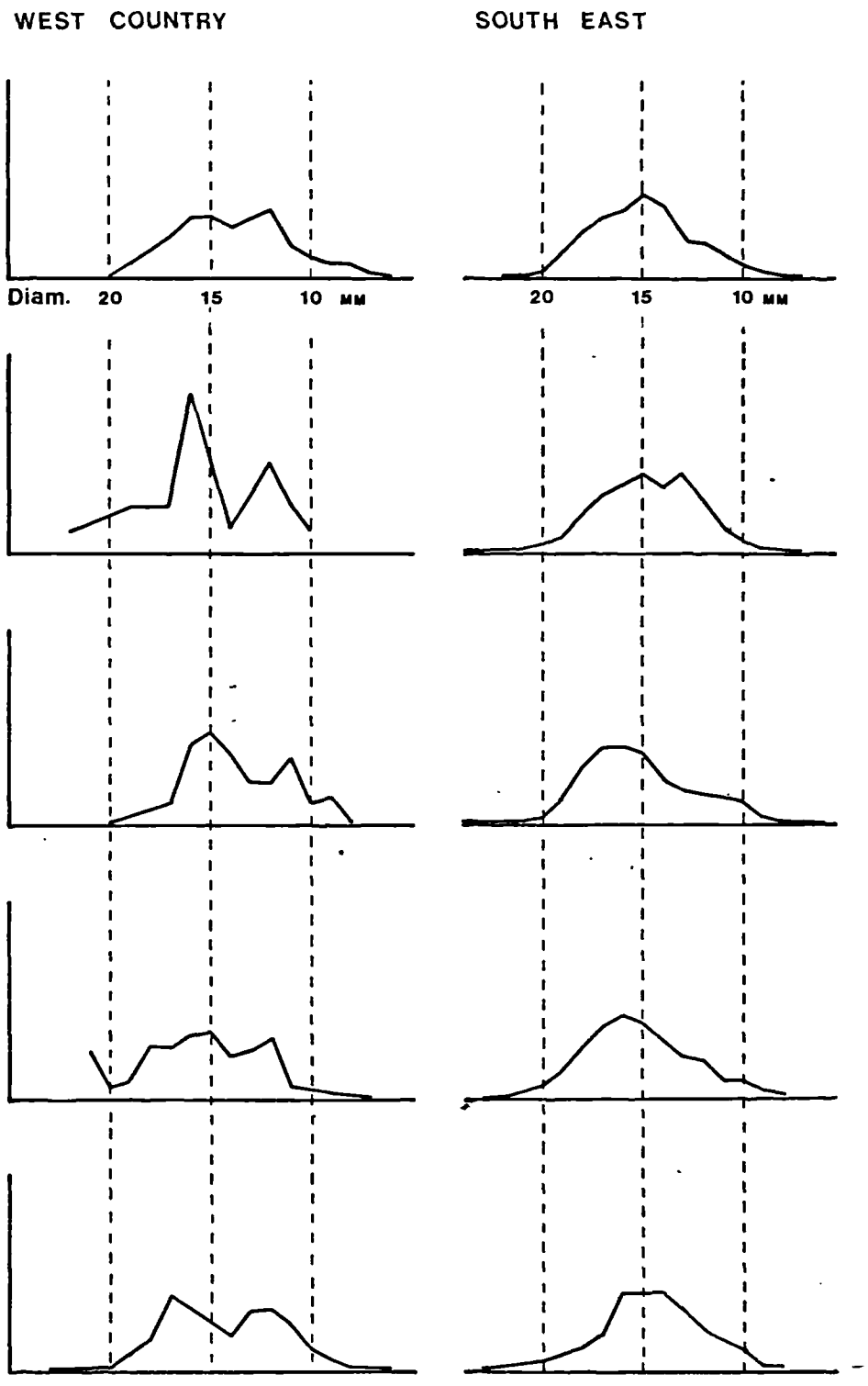


Fig.15:2 Coin diameter graphs for western and eastern sites

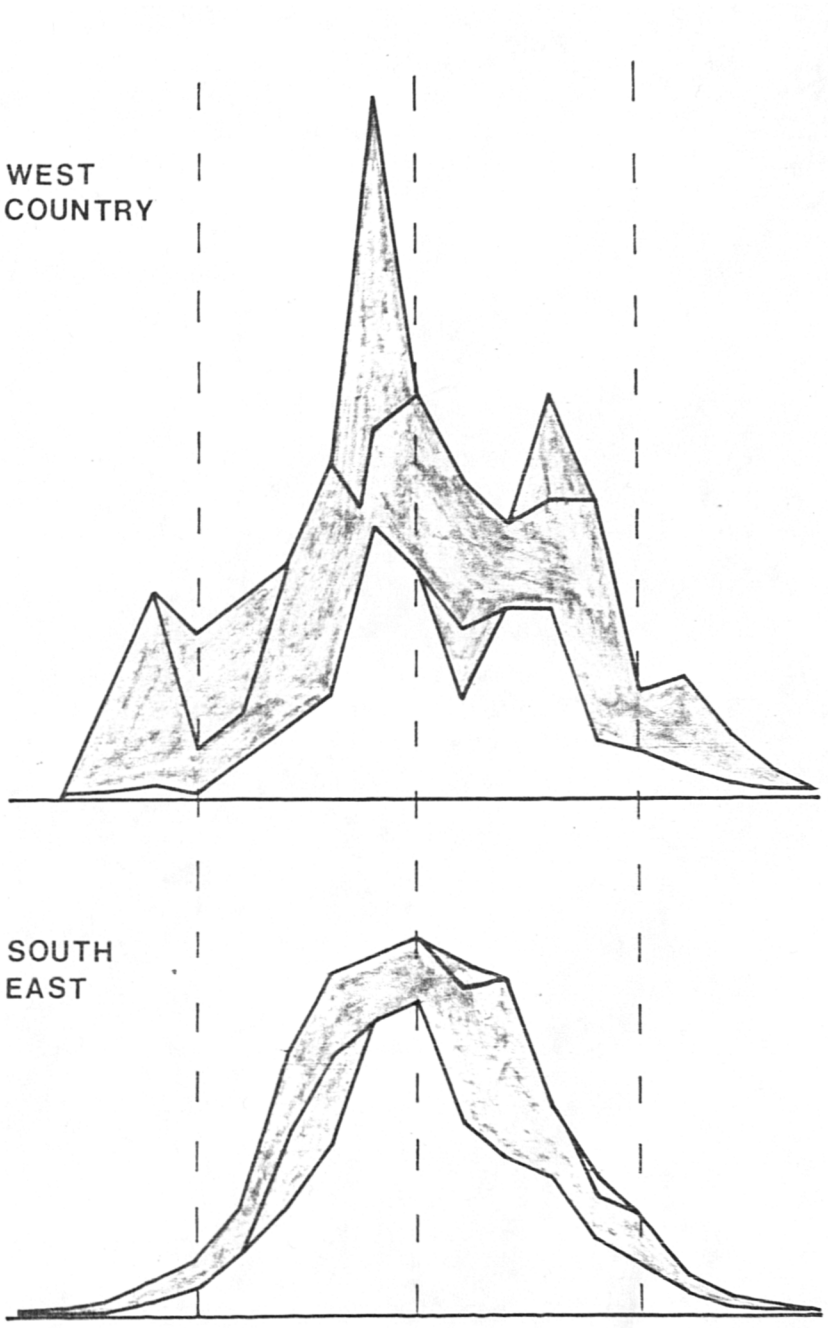


Fig.15:3 Combined diameter graphs for western and eastern sites

there, after irregular coin had ceased to be used in the south east. It has been shown in chapter 13 that the west of Britain, around the Severn Estuary, was a major source of irregular coin of reduced module. The discussion presented here supports the arguments of Boon, who wrote that barbarous radiates of all sizes possessed a value equivalent to that of full sized regular antoniniani (Boon 1974).

Patterns of die- and style-linking

A number of die- and style-links have been put forward during the course of chapters 6-10. The initial observation that can be made concerning these findings as a whole is that linking was widespread, particularly in relation to larger sites and route centres. A synthesis of the clearest links has been provided in chapter 12, in order to clarify the overall picture.

In some cases, the pattern of linking has given the impression of a restricted zone of circulation, as around the sites of Verulamium and Colchester (chapters 8 and 10). Some specific die-/style-groups which have a restricted circulation have been shown in figure 12:1. A further example is that of the Meare Heath hoard die-groups (chapter 6) which are not found outside of that immediate part of Somerset. Other links shown in chapter 12 involve sites right across the study area - across southern England (figure 12:2). Unfortunately, most of the die- and style-groups in question involve only a few coins. One larger group is the Invictus/ewer group, which has been referred to continuously throughout this thesis. Known examples have been mapped in figure 12:4. In that case a number of sub-styles have been identified, which are found right across the study area, but there is an unmistakable

concentration at Verulamium and in its immediate environs.

In addition to the linking within Britain, the question of continental linking has also been considered, in chapter 11. A situation of widespread linking, especially between the south coast of England and Gaul, occurred during the earlier years of this coinage. In later years there appears to have been a more insular coinage pool within Britain, with less linking detectable among smaller and cruder copies.

In general, the picture of an unrestricted circulation of barbarous radiates can be seen, right across the Province. Even the smallest types appear to have been accepted in all parts. It is interesting to contrast the more restricted circulation zones associated with the sites of Colchester and Verulamium. The linking associated with Colchester seems to have extended as far as Verulamium to the west, which may mirror the trading contacts and influence of the town. Sites with more extensive lines of communication have been found to be those exhibiting more extensive linking, such as Neatham and Richborough. It does seem to be the case that the axes of contact and trade associated with specific sites are reflected in their patterns of die- and style-linking. It is unfortunate that the die- and style-groups in question involve so few coins in each case. If these groups can be reinforced by the recognition of additional examples the patterns outlined in chapter 12 can be strengthened and more can be learned about trading patterns and coin circulation at this time.

The production of barbarous radiates

The very earliest irregular antoniniani would have been struck by trained mint personnel, almost certainly on the continent,

associated with the official mints to some extent (Besly and Bland 1983). During the main years of barbarous radiate production in Britain the nature of production was quite different. Much less engraving skill is evidenced and a high level of variation is seen within the coin series, in all aspects of appearance. The frequency of production centres has been discussed in chapter 12, where it was argued that there was a loose system of production in smaller towns and villages, which was not supervised by the authorities in the major towns. Individual workers, operating even with just a single pair of dies, would have been responsible for the degree of variety and generally poor quality of workmanship seen at all sites. Where style-linking has been identified, it may be the work of the same hand in each case. However, successive copying of copies within one area could produce examples of similar style. The term 'mint' has been applied to the centres of production but the degree of organisation and expertise associated with official imperial mints of the period was clearly lacking.

No barbarous radiate dies have survived, either in Britain or in France, from which to reconstruct our knowledge of the striking process or the possible output of the coiners. Some work on die-output in the Medieval period has been completed by B.H.I.H. Stewart (1963). The Medieval period was one of high output minting. Stewart's work on coins from the Newcastle and the Bristol mints showed a difference in estimates of between 28,500 and 72,000 coins per obverse die and between 14,000 and 24,000 coins per reverse die. For the earlier Medieval years he suggests between 10,000 and 15,000 coins per reverse die to be a reasonable estimate. Although there are difficulties in applying such figures to other periods, the method of striking coin was similar to that used in the Roman period. Even if the

smallest figure mentioned is taken and applied to Roman die-output, some rough idea of the scale of coin production can be obtained. Barbarous radiate dies could have been inferior in quality, resulting in a reduced output before splitting occurred. Conversely, features common to barbarous radiates such as low relief and blurred impressions show that output from these dies was maximised before they were discarded.

Robert Kenyon has shown experimentally that relatively little expertise is necessary in order to make highly effective dies of the kind in question (Kenyon, forthcoming). There is little reason to suppose that barbarous radiate dies were less efficient than official ones of the same period. Indeed, many of these coins are difficult to distinguish from the regular issues of the period.

It is likely that barbarous radiate production was very high indeed. Each die, employing a safe estimate, should have been capable of producing several thousand - even in the region of 10,000 - coins. For a typical site - a small town the size of Neatham, where some 200 different obverse and reverse dies are attested - an original output of between one and two million coins could have been produced from the die impressions evidenced.

It is possible that the practise of cold striking was used by some coiners, which would have reduced the output from a set of dies. Such a method would have necessitated that dies were continually re-cut; neither could they have been used for so long. Such constant re-engraving would explain the very high number of different engravings seen. It would also explain the close stylistic similarity existing between some coins. Unfortunately, in the absence of any remaining dies, we must

rely on speculation. However, it is certain that the overall output from so many different dies was very large indeed, even if the figures suggested above are too high. It must finally be added that the largest number of coins known to have been struck from common dies remains in the region of just 20 - 30, from the Worthing, Goring-on-Sea and Meare Heath hoards.

It has been suggested that the first irregular antoniniani were engraved by official mint personnel in an unofficial capacity. Later copies tend to be cruder, with poor or no lettering and betraying no engraving experience on behalf of the moneyer. Robert Kenyon has shown by his experiments that no previous knowledge is required in order to arrive at a reasonable imitation of a Roman coin quite quickly (Kenyon, forthcoming). Lack of experience was therefore no real impediment to the British engravers. It would have been possible for virtually anybody to engrave a die and produce coins of the quality regularly encountered, quite easily. Should we look to any particular group of artisans or craftsmen within society? It was suggested in chapter 13 that those involved in the manufacture of pewter moulds in the west of Britain may have been employed in die-engraving. Jewellers may also have been involved, although Dr Martin Henig has remarked that there are few intaglios of third century date and the quality of their workmanship is not as high as in other periods (pers.comm.). However, it is stressed that the majority of barbarous radiates do not indicate particular artistic skill or craftsmanship on behalf of their engravers.

It can finally be noted in this section that the absence of any dies is consistent with the question of a shortage of metal at the time. Dies were not discarded when they had been exhausted but were melted down and re-used.

Barbarous radiates and the use of low value coinage in Roman Britain

The third century has traditionally been characterised as a period of crisis and change (King and Henig 1981). A number of dominant themes shaped events, including the debasement of the coinage, the movement of barbarian peoples westwards across Europe and the resultant establishment of the Saxon Shore defensive system in Britain. On the more constructive side, there were achievements in art, religion and a general renewed prosperity within Britain during the last quarter of the century. It was shown in chapter 14 that there was little coin from the official mints reaching Britain during the years when barbarous radiates were manufactured and used in the Province. It was also seen, in relation to other parts of the Empire, that irregular coins can be associated with areas where new supplies of official coin were not sent. In some provinces the coinage pool remained low and such imitations were not produced. It was with reference to this situation that King remarked, 'distinct (if not yet identifiable) set of local circumstances stimulated the production of copies in...large numbers', in certain areas (King 1981, 94). In other words, there was a specific need for the coin to be produced in Britain, which was not common to all other provinces. A closer inspection of some of the developments in third century Britain may help to identify those circumstances and explain why the production of barbarous radiates took off to such an extent in this Province.

The Augustan coinage system was used in Britain during the first two centuries AD. This system has been well documented, with the more valuable gold aureus and silver denarius in use alongside the lower value aes denominations; the sestertius,

dupondius, as, semis and quadrans (for example, see Reece 1970, 170). This mature coinage system had high value coins, which could be used as a store of wealth, supported by medium and small denominations, suitable for everyday coin transactions.

Roman silver coins did reach Britain before AD 43. However, it is unlikely that Roman bronze coinage circulated in Britain at all before the conquest (Reece 1979, 212). Roman coinage was first used in quantity by the Roman invaders. Barter would have initially continued among the native population, with the use of coin then becoming adopted in the larger civilian settlements (Burnett 1977). There was no deep-rooted tradition of coin use for everyday transactions and it has been argued that, 'many aspects of the early Romano-British economy could have remained part of social relations' (Hodder 1979, 194). The undercurrent of non-coin use can be illustrated by the example of the Roman rural settlement on Spong Hill in Norfolk (Davies, forthcoming c). This site was continuously occupied from the late pre-Roman Iron Age, right through the Roman period. Coin recovery from the excavation was good, aided by the use of metal detectors. No coins are dated before the reign of Hadrian, until some eighty years after the invasion of Britain. Coin use was not adopted on this rural site until the second century.

Not only was coin use not universally adopted in Britain but it is unlikely that there was a full monetary economy at all during the first or second centuries AD. The lowest denominations - the semis and the quadrans - are very rarely found in Britain. It is generally agreed that coins of the lowest value in circulation were lost in the highest numbers and represent the most commonly found site finds. We can

therefore deduce that there was no 'small change' in use. The denominations which were used in circulation in early Roman Britain were not suitable for the requirements of everyday small monetary transactions. It is considered that the use of coin in the first two centuries of Roman Britain was limited.

In Britain, during the reign of Commodus (AD 180-92) the volume of aes reaching sites noticeably declined and ceased in about AD 197. It did revive between 222 and 253, when low quantities reached the Province. Earlier sestertii did remain in circulation down to the reign of Postumus (Reece 1974) and became very worn, but there was a lack of new aes throughout the first half of the third century. The lack of small change in the economy can be seen in relation to the coinage of fourteen British sites (Reece 1972). In Reece's table 1, it is clearly shown that there was virtually no small module aes (AE 3-4) circulating in Britain until Issue Period X (AD 259-75). Not only does the quantity of small coins then increase dramatically but the number of coins lost on sites generally increases significantly (see also Reece's histogram for British sites, op. cit., figure 1).

The pattern of coin loss on British sites suggests that there was more coin in circulation and in general use in the late third century. It is after AD 260 that large numbers of low value coins are seen for the first time in Britain. Kent has argued that it was half a century of unfamiliarity with imperial coins that explains the public's ready acceptance of outwardly incompetent forgeries (Kent 1985, v).

A second feature which can be dated to the same period as the proliferation of low-value coins is the expansion of the large pottery industries, in particular those of the New Forest and Oxfordshire. The suggested starting date for each of these

industries is likely to have been centred around 270 (Fulford 1975, 111). Fulford calculated that the output of colour-coated wares in Britain trebled in the last quarter of the third century (op. cit. 110). The observed rise in production of fine table ware pottery thus coincides with the increase of low denomination coins in circulation.

During the third century the northern frontier of the Empire came under threat from movements of barbarian peoples, moving westwards. The Angles, Saxons and Frisians of north Germany and Holland began to raid the Roman provinces adjacent to the North Sea and English Channel. It was in response to these raids that the Saxon Shore defensive system, which integrated a series of coastal garrison forts and a fleet, was constructed. Precise dating for the Saxon Shore forts is not available except for Richborough, where construction started in the 270's (Cunliffe 1975, 421). The forts were broadly contemporary. With regard to the dating of the system, Cunliffe considered it, 'a perfectly acceptable hypothesis...that forts were put up individually, as a threat of pirate raids made itself increasingly felt, culminating in a burst of activity at the instigation of Probus in AD 276-7' (op. cit. 421).

A number of town walls in Britain can also be dated to the period soon after 270 (Frere 1978, 215-16). The construction of town walls in general was not a sudden process. Some wall construction had begun in the first half of the third century. However, we do get a noticeable programme of wall construction from about 270. For example, the towns of Canterbury and Brough on Humber have both yielded coins of that date from their ramparts (op. cit. 286). Pottery evidence indicates a similar date for the walls of Dorchester on Thames, Caerwent

and Witherley, while Rochester too may have been walled at that time (op cit. 286-7). The town walls of Gaul were constructed later than their British counterparts, mostly dating to just before the reign of Diocletian (284-305) (op. cit. 286).

The construction of stone walls around towns can be seen in the light of the prosperity of the last quarter of the third century. In relation to the private sector of society, Salway refers to, 'the general flowering of villas from about 270' (Salway 1981, 280). Villa construction and improvement is evidenced at that time, as in the case of Witcombe villa and Frocester Court villa (op. cit. 278). The barbarian invasions had led to inhabitants of Gaul moving to the relative security of Britain. This movement has been referred to as a 'flight of capital', but which Salway prefers to call a 'flight of owners' (op. cit. 278). The period of villa construction is further evidence for the prosperity abroad during the 270's.

The evidence reviewed here shows that there was a huge programme of public and private building underway during the period after AD 260 in Roman Britain. The expansion of the pottery industry has been related to the building programme and to a climate of prosperity. The administration of the Province during this period is not well understood. Could it be that the large quantities of low denomination coinage which began to be used at this time represent payment to workers involved in the building programme? A very large labour force must have been employed across southern Britain. Payment in kind, in the form of food and provisions, to these workers would have been a huge undertaking involving a high level of organisation but payment in coin would have overcome the problem admirably. Monetary payment would have left the workers to fend for themselves; to purchase their own food and provisions and

providing a further impetus to the economy, which does seem to be in evidence at this time. The payment of coin directly to the workers would also explain the method by which the large amounts of irregular coin were injected into circulation, which otherwise presents a problem. The context for the dissemination of coin into the economy during the Roman period in general is often considered to have been that of payments to the army and state servants. However, large amounts of coin were entering circulation in the south of England, which was not a military zone and would have seen only a minimal military presence. The payment directly to civilian workers would explain the prosperity of the late-third century, stemming from an increased demand for consumer items within society. It is in this way that a full monetary economy could have developed in Britain during the years in question.

The supply of new coin to the provinces has generally been seen as having been geared to state expenditure, largely relating to the army (Burnett 1977, 15). In chapter 14 it was suggested that the regular coin of period XI (AD 275-94) was associated with provinces which saw military activity during those years. In Britain there was an absence of major campaigns during the years when coin supply was minimal. Thus, the irregular antoniniani do appear to have been struck in a non-military context, in order to pay a civilian workforce.

The history of barbarous radiates in Britain

The earliest attested production of barbarous radiates is that outlined by Giard, in Gaul, from AD 263. By about 266-7 it is considered that they would have been circulating in appreciable numbers there (Giard 1963). The main period of production,

however, is thought to have been from about 269. This date is earlier than it is possible to argue for production in Britain. The earliest irregular antoniniani produced in Britain belong to the tradition of casting, as evidenced at Whitchurch (Boon and Rahtz 1966). It is concluded that the production of barbarous radiates began in northern Gaul and later spread to Britain. The good style and large size of the earliest imitations, as found in the Cunetio hoard indicate, some connection between the earliest copies and official mint personnel (Besly and Bland 1983).

The first barbarous radiates to be used in Britain crossed the Channel from Gaul to Britain in increasing numbers and many die- and style-links have been identified between examples used in both Provinces during the early 270's (chapter 11). Barbarous radiates could have been struck in Britain from about 270. It was during the mid-270's that official coin supply to Britain and some other provinces of the Roman Empire is noticed.

Base metal antoniniani of the emperors Gallienus, Claudius II and of the Gallic Emperors would have served to meet the initial demand for coin in Britain related to the massive construction programme in the province (see previous section). A shortage of coin and a shortage of metal suitable for coining is then apparent. The coin shortage was worsened by the high number of very large hoards which were deposited during the first half of the 270's (chapter 13). These 'early' hoards are restricted to the south east of Britain. Some may have been hoards of the best coin available within a rapidly deteriorating coinage pool, in relation to Gresham's Law. Others can be interpreted as having been buried in response to coastal raiding by barbarians from across the North Sea. For

example, the county of Norfolk has eighteen hoards of the late-third century, which can be separated into two distinct spatial groupings. Half are found in a strip across the centre of the county, while the remainder are found around the coastline. A coastal distribution can also be interpreted in the cases of Kent and Sussex, which were similarly affected by sea-borne raids.

Barbarous radiates became generally accepted in circulation and they were struck at many locations across the Province (chapter 12). New derivative types were struck, which became increasingly cruder than their continental predecessors, but they always retained the signs of official authority, namely the emperor's head with radiate crown and perhaps an attempt at obverse and reverse die-alignment. Production continued across the country, with coins becoming smaller as less metal was available for coining, after c. 275. Britain was probably striking most, if not all, of its irregular coin requirement by the late-270's, when the module of coins in use had dropped to minim size, as evidence by the sharp decline in continental die- and style-linking (chapter 11). There is also a detectable difference in derivative coin styles in both countries during the later years (chapter 11). The production in Britain was not centralised.

The restricted location of early barbarous radiate hoards and the pattern of linking associated with early barbarous radiate coin types show that the initial use of these coins was in the south east of England (figures 13:4 and 13:8a). The use of barbarous radiates then spread across the country, as shown by the corresponding patterns of late hoards and late links, which cover more of the country to the north and west (figures

13:5 and 13:8b). The coinage pool was more insular in later years, with less 'late' continental linking. It has been argued in the previous section that the 270's saw the initial use of coin for small, everyday, transactions by many civilians in Roman Britain. It has also been argued in chapter 13 that the pattern of late barbarous radiate hoarding, which shows a spread to remoter areas of the Province, indicates the division between coin using and non-coin using communities. The use of coinage was becoming adopted in areas which had not previously used coin. The minims may have initially been exchanged in bulk between coin users and non-coin users and this interpretation could explain the large number of hoards at this time, which otherwise remain unexplained, in the absence of barbarian raiding or conditions of unrest (Reece 1981b). Thus, we can see the adoption of a full monetary economy probably for the first time in Britain and also coin being generally adopted in more rural areas, where it had not previously been used as a medium of exchange.

The end of a barbarous radiate use remains shrouded in mystery. There is no objection to their having circulated right up to the start of the British Empire, which began in the year 287. What remains contentious is the likelihood of a suppression of barbarous radiates in c. 282/4, as expounded by Mattingly and Boon (Mattingly 1964 and Boon 1967). The individual circumstances of a coiner's den, as excavated at Coygan Camp, would fit such a theory (Boon 1967). However, this writer prefers the idea of production having continued, in some places at least, up to the episode of Carausius. Unfortunately no new evidence can be presented here to substantiate this possibility but continuity into the Carausian period is preferred. It is not possible to comment here on the

later situation in Gaul but Giard has suggested a date of 280-1 for the end of production there (Giard 1965b).

There is a break in the physical appearance of the coinage with the striking of the mainstream British Empire antoniniani, under Carausius. Barbarous radiates did continue to circulate into the Carausian period and they were hoarded alongside the later coin, as shown in map 13:3, which represents Carausian hoards. They also continued to circulate as late as the mid-fourth century (map 13:2). They are regularly encountered within hoards of that date, in common with occasional regular antoniniani (Burnett 1979, 92). The similarity of their size and general appearance to the Constantinian coinage of the mid-fourth century meant that these coins could easily slip into circulation at that time.

The initial production of irregular antoniniani would have been restricted to a limited number of centres, related in some way to the official mints and mint personnel, in an unofficial capacity. The early production can be considered to have been centralised in this respect. When these coins began to be struck in Britain a greater degree of diversity in appearance, size and weight is found. It is clear that there was no centralisation of production because more order would be apparent if that were the case.

A military connection has been conjectured in relation to other major episodes of irregular coin production within Roman Britain. In the case of the post-Invasion Claudian imitations of the first century a military association is certain (Casey 1980, 32). Constantinian imitations of the years from 330 to 348 may also have been produced by the army (Hammerson 1987, 51-2). There is no need to introduce such a military

connection in the case of barbarous radiates. The south of England was primarily a civil zone and the context of production to pay workers involved in the building programmes of these years, as outlined in the previous section, is a more plausible explanation for their appearance in circulation at this time. This coin was being paid directly to civilian workers and not initially to state servants or military personnel.

Barbarous radiates were freely struck in large numbers and clearly enjoyed official sanction during the main years of the coinage. It is envisaged that the civil authorities allowed the widespread production of coin as a mechanism to facilitate payments to workers. Whether there was a final repression of the coinage by the authorities must remain conjecture, although the concept of continuity into the episode of Carausius is preferred here.

The dating of barbarous radiates in coin lists

Barbarous radiates are usually described in Romano-British site coin lists with the dating AD 270-90. There is some additional scope for discretion to be used in the cases of specific types which will allow some tightening-up of this dating. Some barbarous radiates are of very high quality and many are barely distinguishable from official *antoniniani*. Giard has argued that imitations were produced in Gaul from *c.* 263 (Giard 1962). It is therefore possible to date some copies of Gallienus, Claudius II, Postumus, or even Victorinus, to before 270. In the case of such good copies, they should be closely identifiable with specific regular issues. In such cases they should be described in coin lists in relation to those issues, in the following manner:-

'as RIC - ' or 'as ELMER - '.

Secondly, copies of reduced module can be dated later within the overall chronology. It is possible to date minims, in particular, to the period between 275 and 287.

Barbarous radiates and the coinage of Carausius

The mainstream coinage of Carausian *antoniniani*, which were struck from 287 at two or more mints in Britain, is very different in physical appearance to the preceding coinage of barbarous radiates and particularly to the very latest types - of reduced module. These Carausian *antoniniani* are larger in size, heavier and employ very distinctive and bold engravings (see Robertson 1978, 252-79 and Plates 57-62). Could there have been any continuity from the coinage of barbarous radiates to the production of these much better pieces?

In addition to the Carausian coins described above, there are also large numbers of uncatalogued coins of that emperor which regularly turn up on Romano-British sites. These tend to be smaller in diameter, with more variable engravings and of looser style. Such types are thought to belong to the early years of Carausius' reign (Dr C.E.King and Dr R.Reece, pers.comm.). Could these less-competent pieces, sometimes termed 'irregular', represent some degree of continuity from the preceding period? Unfortunately the portraiture exhibited on these coins is so different that it is almost impossible to detect any continuity in style. However, they do lack the degree of skill that would be associated with products from trained mint personnel on the continent. It is possible that they represent the initial phase of tightening-up of coin production under Carausius from the looser, widespread

barbarous radiate production, but employing some of the same coiners, in a more organised system. The mainstream coinage of Carausius at at least two British mints, as catalogued by Webb (1927) and Robertson (1978), could be seen as a further tightening-up of his coin production.

When Carausius started his coinage in Britain, no official imperial mint had previously been situated in the Province. He may have started the mints from scratch with completely new workers; he may have imported engravers from abroad or he may have made use of the experienced engravers who had worked on the preceding coinage of barbarous radiates. There is no real evidence for continuity but it would seem to be the most logical alternative available. If that was indeed the case, then the coinage of barbarous radiates can be regarded as the origin of minting in Britain, which was to be continued by Carausius, Allectus and then by Diocletian, into the fourth century.

Chapter 16. The direction of future research

This thesis has provided fresh evidence, particularly in the form of site find analysis, which has enabled a re-appraisal of the coinage of barbarous radiates. It is apparent from the preceding chapter that aspects of this coinage remain as problematic as ever. It is difficult to point to specific future programmes of research which could solve these problems. The real solution will involve the continued accumulation of data from archaeological sites and hoards, and the comparison of this information in a systematic way.

Perhaps the aspect which is still least understood is just why and when did barbarous radiate production cease? One possible direction of study could involve the relationship of barbarous radiates to the earliest, highly variable, coinage of Carausius. The portraiture and physical appearance of the latter issues are so different from barbarous radiates that it would probably be impossible to directly compare styles. More will be understood about the irregular types of Carausius when the issues from his known mints are more fully catalogued, in the light of continuing research.

The detailed study of barbarous radiate site finds in this thesis has been restricted to the south of England. Some future comparison may be attempted with sites in the midlands and the north of England. Die-links have not yet been found between the north of England and southern sites, although H.B.Mattingly has found such links between hoards in Sussex and in the midlands (Mattingly 1963 and 1964). Did these coins in fact circulate right across Britain? Can some regional differences be found in their types - which are not apparent across southern England? Does the proportion of minimi differ

in the north?

Romano-British coin hoards are now regularly and promptly published in the journals Coin Hoards (published by the Royal Numismatic Society) and Coin Hoards from Roman Britain (published by the Department of Coins and Medals at the British Museum). Therefore, it is now possible to keep an accurate picture of all known hoards and to up-date hoarding patterns shown here in chapter 13. It is hoards which continue to turn up most of our known die-links.

A summary of known die- and style-links has been presented here in chapter 12. As the recurring types become familiar with numismatists, our knowledge of the distribution of die-groups may begin to expand, as and when new coin collections are studied. The publication and illustration of die-links and distinctive types encountered on sites and in hoards will help to accelerate this process. The continued illustration of types for reference will also help archaeologists to distinguish between barbarous radiates and regular antoniniani, which is a fundamental but recurring problem.

The original objectives of this study, which involved the establishment of new die-groups and an analysis of their distributions, have had to be modified in the light of the paucity of such linking among site finds. Other aspects have been studied but the original concept of mapping die-links remains a potentially profitable area for future study, as such data is accumulated, however slowly.

Meanwhile, the laborious accumulation and comparison of fresh data must continue. This writer intends to establish a photographic archive for the comparison of future collections. A generally available work of reference must also be prepared

for the use of archaeologists and numismatists, along the lines of that presented here in chapter 12. It is hoped that in this way the study of this prolific and problematic coin series will become accessible to more workers, which will in turn benefit the study in the years ahead.

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Introduction

This catalogue lists the recorded details of the barbarous radiate site finds from England, together with some selected hoards finds, which were studied for the thesis. These coins were analysed and discussed in chapters 6 - 10 and the catalogue has been divided into five sections relating to those chapters. Within each section, the coins are separated by counties; then listed by site, in alphabetical order.

Key to the collections cited

At the beginning of each county listing, a summary of the coins present is provided. The collection from which each site group was recorded is indicated, in abbreviated form. The key to those abbreviations is as follows:-

Gloucestershire

CM Cirencester Museum

CEx Cirencester Excavation Committee

Avon

BCM Bristol City Museum

Wiltshire

DEVM Devizes Museum

ASHM Ashmolean Museum, Oxford

SWINM Swindon Museum

NEWBM Newbury Museum, Berkshire

Dorset

DCHM Dorchester Museum

Somerset

BRITM	British Museum, London

Berkshire

NEWBM	See Wiltshire
RM	Reading Museum
RUn	Reading University

Hampshire

WINM	Winchester Museum
SOM	God's House Tower Museum, Southampton
NEWBM	See Wiltshire
PORM	Portsmouth Museum
BskM	Basingstoke Museum
RM	See Berkshire
ASHM	See Wiltshire
WINEx	Winchester Excavation Committee

Oxfordshire

ASHM and NEWBM	See Wiltshire
RM and RUn	See Berkshire
BRITM	See Somerset
WOODM	Oxfordshire County Museum, Woodstock

Buckinghamshire

AYLM	Buckinghamshire County Museum, Aylesbury
ASHM	See Wiltshire

Hertfordshire

BRITM	See Somerset
VERM	Verulamium Museum, St Albans

Sussex

CHIM	Chichester Museum
BRIGM	Brighton Museum
LWM	Lewes Museum
FISM	Fisbourne Museum

Kent

MAIDM	Maidstone Museum
CtEx	Canterbury Excavation Committee
CtM	Canterbury Museum
DARM	Dartford Museum
FH	H.B.M.C., Fortress House, London

London

MAIDM	See Kent
PEM	Passmore Edwards Museum
LONM	Museum of London

Surrey

GUIM	Guildford Museum

Essex

COLM	Colchester Museum
CAT	Colchester Archaeological Trust
PEM	See London

Key to the catalogue entries

The entries for each coin are in the following form:-

CATALOGUE NUMBER	DIAMETER	DIE AXIS	COLLECTION NUMBER	WEIGHT

The basic details that were recorded are listed in four columns on the right hand side of the page.

Diameter: Barbarous radiates tend to have irregular-shaped flans and the maximum diameter has been recorded. The diameter was recorded in all cases unless a coin was too fragmentary to obtain an accurate reconstruction.

Die-axis: This has been recorded by numbers 1-12, in relation to a clock face.

Collection number: This is the number of the coin within the collection in which it is housed.

Weight: Recorded to one hundreth of a gram. An accurate balance was not available in many cases and this column is accordingly left blank.

Additional notes on the obverse or reverse have been inserted in the entry, where necessary.

Site Finds from the counties of Gloucestershire, Avon, Wiltshire, Dorset and Somerset, described in chapter 6

Gloucestershire

Cirencester Museum collection (CM)	237	
Cirencester Excavation Committee, 1960-75 (CEx)	258	
		495
Coln St Aldwyn (CM)		3
		498

Cirencester Museum

A CENTRAL EMPIRE

Gallienus

1		20 mm	5	C2022

Salonina

2		16 mm	11	

Claudius II

3		12 mm	12	C2079
4		10 mm	4	C2079

Divo Claudio

Altar type

5		14 mm	5	A281/9
6		13 mm	2	

B GALLIC EMPIRE

Postumus

7		20 mm	11	
8	Pin figure	20 mm	12	C2026
9	Pax Aug	19 mm	4	C2026
10	Pax Aug	18 mm	12	C2031

Victorinus

11	Male fig.	18 mm	7	C2007
12		18 mm	3	C2034
13		17 mm	12	B2144
14		16 mm	7	A292/8
15	Female fig.	16 mm	3	A344
16	Female fig.	16 mm	2	B2209
17	Victoria Aug	16 mm	12	C2007
18	Victoria Aug	15 mm	2	C2035
19		15 mm	3	C2035
20		14 mm	7	
21		15 mm		C2037
22	Female fig.	20 mm	11	C2035
23	Salus Aug	17 mm	12	C2037
24	Victoria rev'd	16 mm	7	C2027
25		15 mm	7	C2034

Invictus

26		18 mm	1	C2036
27		17 mm		A94
28		16 mm	9	C2078
29		15 mm	6	B2209
30		15 mm	8	C2034
31		16 mm	1	A94
32		15 mm	2	C2035

33		15 mm	10	C2034
34		13 mm	1	C2079
35		13 mm	9	C2035
36		13 mm	1	C2035
37		12 mm	4	C1938
38		11 mm	9	C2130
39		11 mm	5	C2037

Pax

40		21x17 mm	4	C2034
41		19 mm	7	C981
42		18 mm	12	B2960
43		16 mm	11	C2027
44	(vert.sceptre)	15 mm	11	B2144
45		11 mm	6	C2036

Virtus

46		18 mm	12	C2027

Providentia

47		12 mm	2	C2036

Tetricus I and II

Fides Militum

48		17 mm		C2036
49		14 mm	5	C2035

Hilaritas Augg

50		18 mm	7	C981
51		16 mm	7	B2209
52		15 mm	6	C2078
53		15 mm	8	A94

Laetitia

54		17 mm	10	C2034
55		17 mm	6	C2035

Mars Victor

56		17 mm	10	B2855
57		16 mm	11	B2209
58		15 mm	2	C2035
59		14 mm	4	C2035
60		14 mm	7	C2035
61		13 mm	3	B2209

Invictus type - hybrid

62		18 mm	3	C2034

Pax Aug

63		20 mm	12	B2855
64		18 mm	7	C2035

65		18 mm	11	C2035
66		18 mm	3	A314 52
67	(trans. sceptre)	17 mm	5	B2209
68		17 mm	9	C2037
69		16 mm	4	C2035
70		16 mm	11	C2035
71		16 mm	3	C2036
72		15 mm	3	C2035
73		15 mm	7	C2031
74		15 mm	3	C2034
75		15 mm	9	C2034
76		15 mm	4	C2007
77		15 mm	5	C2031
78		15 mm	7	B2860
79		15 mm	4	C2079
80		15 mm	3	B2144
81		14 mm	12	B2144
82		14 mm	11	C2036
83		14 mm	10	C2035
84		14 mm	6	C2007
85		14 mm	12	B2860
86		14 mm	1	C2079
87		14 mm	6	C2078
88		14 mm	7	C2036
89		14 mm	7	C2036
90		14 mm	8	C2036
91		13 mm	4	B2858
92		13 mm	2	B2855
93		13 mm	6	C2035
94		13 mm	5	B2144
95		13 mm	1	A94
96		12 mm	9	A94
97		12 mm	2	B2144
98		12 mm	12	C2130
99		12 mm	6	C2037
100		11 mm	9	C2037
101		17 mm		C2034
102		14 mm		A94

Pietas

103		17 mm	10	A94
104		13 mm	8	C2036
105		13 mm	2	C2036
106		13 mm	4	C2036
107		8 mm	10	C981

Salus

108		18 mm	5	C2031
109		18 mm	9	C2034
110		17 mm	11	C2034
111		17 mm	3	B2144
112		17 mm	5	C2035
113		16 mm	6	B2855
114		16 mm	4	A94
115		16 mm	3	A273
116		16 mm	4	C2034
117		15 mm	3	C2079
118		14 mm	6	C2037
119		14 mm	4	B2144

120	(P)AX wrong leg	14 mm	10	C2078
121		13 mm	7	C2036

Spes

122		22x18 mm	2	C2800
123		19 mm	9	C2007
124		18 mm	4	C2035
125		18 mm	11	A94
126		17 mm	5	A314 6
127		17 mm	4	C2036
128		17 mm	5	C2036
129		17 mm	1	C2035
130		17 mm	12	C2034
131		16 mm	4	B2144
132		15 mm	7	C2078
133		15 mm	4	C2078
134		15 mm	5	C2007
135		15 mm	11	A94
136		14 mm	10	B2855
137		13 mm	11	C2036
138		12 mm	10	C1938
139		11 mm	4	C2037

Victoria/Comes Aug

140		19 mm		A268
141		17 mm	10	B2855
142	PAX- (wrong leg)	16 mm	6	B2144
143		14 mm	12	C2034

Virtus

144		19 mm	2	A272
145		18 mm	7	C2034
146		18 mm	2	C2036
147		18 mm	5	C2037
148		16 mm	12	C2036
149		16 mm	10	A94
150		14 mm	2	A94
151		13 mm	10	C2007
152		12 mm	3	C2036
153		11 mm	1	C2007

Tetricus I, uncertain rev.

154		20 mm	8	C2034
155		19 mm	2	C2007
156		19 mm	2	A94
157		18 mm		B2209
158		17 mm	12	C2036
159		17 mm		A94
160		16 mm	6	C2007
161		16 mm		C2007
162		16 mm	5	C2032
163		16 mm		C2031
164		15 mm	8	C2034
165		14 mm	12	C2079
166		14 mm	9	C2078
167		14 mm	12	C2034
168		14 mm		C1938

169		14 mm	10	C2007
170		17 mm		C2034
171		16 mm		C2037

Tetricus II, uncertain rev.

172		18 mm	2	B2855
173		18 mm		A94
174		14 mm		C2078
175		14 mm	6	C2036
176		13 mm		A94
177		16 mm		A94
178		14 mm		C2078

Gallic Empire, uncertain female figure

179		16 mm	11	C2034
180		15 mm	10	C2078
181		15 mm	4	B2144
182		14 mm	6	C2079
183		18 mm		C2037
184		16 mm		A94

Uncertain figure reverse

185		18 mm		C2037
186	Male pin fig.	17 mm		C2037
187	Spes/Mars hybrid?	17 mm	6	A94
188		16 mm	5	C2034
189		15 mm	8	C1938
190		15x12 mm	10	C2079
191		15 mm	3	C2078
192		13 mm	4	C2079
193		18 mm	2	A94
194		18 mm	9	C2037
195		14 mm	4	C2037
196		13 mm	5	C2035

Uncertain minims

197-224	5x13 mm
	15x12 mm
	7x11 mm
	1x10 mm

Unclassifiable

225-37	1x19 mm
	1x18 mm
	3x16 mm
	4x15 mm
	3x14 mm

A CENTRAL EMPIRE

Gallienus

1	Thin animal r.	16 mm	2	C5203
2		10 mm	2	C5287

Claudius II

3		17 mm		C2650
4		15 mm		C3426
5		10 mm		C4206
6		12 mm	11	C3217

Divo Claudio

Altar type

7		15 mm	8	C4377
8		15 mm		C4344
9		15 mm x11 mm		C3884
10		14 mm	4	C1713
11		12 mm		C3429a
12		12 mm	11	C4552
13		11 mm		C5298
14		9 mm		C4347

Eagle type

15		15 mm	8	C3728
16		14 mm	2	C3770
17		12 mm		C3824
18		11 mm	6	C3861

B GALLIC EMPIRE

Postumus

19	Herculi Romano Aug (from RIC 291)	19 mm	2	2286
20		16 mm		C4236
21		14 mm	2	C2622

Victorinus

22		17 mm		C3439
23		15 mm	6	C2307
24		18 mm		C2359
25		16 mm		1688

Invictus

26		18 mm	8	C2341
27		16 mm	7	C219
28		16 mm	5	C3405
29		15 mm	10	C3872
30		14 mm		C4177
31		14 mm	6	C2671

32	13 mm	12	C4042
33	13 mm	3	C3072
34	12 mm	10	C3524
35	12 mm	5	C3867
36	12 mm	10	C3097
37	11 mm	8	C4697

Pax Aug

38	16 mm	6	C2304
39	15 mm	1	C2543

Providentia Aug

40	16 mm	1	C3903
41	15 mm	5	C3460

Tetricus I and II

Fides Militum

42	18 mm		2365
43	17 mm	6	C5189
44	15 mm		C3776

Hilaritas

45	17 mm	4	C3641
46	12 mm	11	C4174
47	15 mm	12	C4526

Laetitia

48	17 mm	1	C4906
49	11 mm	2	C5270

Pax Aug

50	19 mm		C2411
51	19 mm	4	C3638
52	18 mm	11	C5242
53	18 mm	4	C3864
54	17 mm	8	C2324
55	17 mm	12	C4822
56	17 mm	9	C201
57	17 mm	2	C5297
58	16 mm	2	C2633
59	16 mm	3	C2602
60	16 mm	1	C2589
61	16 mm	12	C2465
62	15 mm	4	C3503
63	15 mm	2	C4905
64	14 mm	1	C2385
65	14 mm	6	C2532
66	14 mm	10	C3110
67	13 mm	2	C3074
68	13 mm		C2756
69	13 mm	8	C4742
70	13 mm	7	C4398
71	13 mm	9	C4151
72	12 mm		C3762

73		11 mm	8	C2545
74		11 mm		C3582
75		9 mm		C5286
76		17 mm	5	C1975
77		14 mm	6	C2588
		Pietas		
78		18 mm	10	C2653
79		16 mm	10	C3028
80		15 mm	6	C3901
81		15 mm	6	2366
82		15 mm	2	C5268
83		14 mm	6	C2608
84		16 mm	8	C2859
		Providentia - hybrid		
85	(Victorinus rev.)	18 mm	5	C2711
		Salus Augg		
86		19x14 mm	11	C3000
87		18 mm	5	C4077
88		17 mm	10	C4820
89		17 mm	12	C4008
90		16 mm	6	C3844
91		16 mm	5	C3832
92		15 mm	3	C5210
93		13 mm	6	C2619
94		13 mm	6	1532
95		12 mm		C4791
96		10 mm	2	1507
97		10 mm	6	C2353
		Spes		
98		19 mm	12	C5179
99		19 mm	4	C2626
100		18 mm	8	C4714
101		17 mm	6	C2806
102	PAX AVG (wrong leg)	17 mm	6	C3240
103		17 mm	12	C4918
104		17 mm	11	C2402
105		16 mm	12	C5229
106		16 mm	11	C3761
107		16 mm	7	C3636
108		16 mm		C3758
109		16 mm	5	C3398
110		16 mm	12	C1742
111		14 mm		C3452
112		13 mm		C3775
113		13 mm		C4339
114		13 mm	2	C4775
115		13 mm	12	2055
116		13 mm	10	C4753
117		12 mm	2	C2314
118		12 mm		C3157
119		8 mm	9	C4793

Victoria/Comes Aug

120		17 mm		C1868
121		15 mm	6	C5254
122		12 mm	12	C1698

Virtus Aug

123		18 mm	6	C4797
124		16 mm		C3917
125		13 mm		C4172
126		13 mm	2	C3165
127		10 mm	12	C5316

Tetricus I, uncertain rev. (above minim size)

128		17 mm	8	C2360
129		18 mm		C3456
130		18 mm		C3802
131		17 mm	6	C4715
132		17 mm		C3404
133		15 mm	2	
134		15 mm	12	C2388
135		14 mm		C4642
136		14 mm		C3216

Tetricus II, uncertain rev. (above minim size)

137		19 mm	8	C3571
138		16 mm		C3883
139		15 mm		C4817

Gallic Empire, uncertain female figure

140		14 mm	7	C2606
141		14 mm	10	C3720
142		12 mm	7	C3044
143		16 mm	9	C2392
144		14 mm	8	C3476

Uncertain figure reverse

145		16 mm	2	C3271
146	Male fig.1	16 mm	8	C5255
147	Pin fig.	16 mm	4	C3419
148		15 mm	6	C1791
149		15 mm	12	C1877
150		14 mm	11	C3603
151		14 mm	5	C2904
152		14 mm	4	C2039
153		14 mm		C1116
154	Male fig.1	15 mm	12	C3239
155		14 mm	3	C3254

Uncertain minims

156-227		15x13 mm		
		21x12 mm		
		12x11 mm		
		7x10 mm		
		6x9 mm		

7x8 mm
3x7 mm
1x6 mm

Unclassifiable

228-258 1x20 mm
2x19 mm
3x18 mm
3x17 mm
6x16 mm
9x15 mm
7x14 mm

Coln St Aldwyn

A CENTRAL EMPIRE

Divo Claudio

Altar type

1		11 mm	9	A311/6

B GALLIC EMPIRE

Tetricus I and II

2	Virtus?	18 mm	10	A311/12
3	Male fig.	14 mm	9	A311/6

Avon

Bath (Inspected at Ashomolean Museum)	110
Bristol (Private collection)	2
Gatcombe villa, 1966 (BCM)	6
King's Weston Park villa (BCM)	5
Sea Mills (BCM)	22
Unprovenanced deposit (BCM)	18

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Bath

A CENTRAL EMPIRE

Gallienus

1	Virtus	18 mm	2		3.05g
2	Virtus	17 mm	12		1.78g

Claudius II

3	Iovi Victori	19 mm	6		2.85g
4	Felic Tempo	18 mm	6		1.67g
5		15 mm	12		0.84g
6	Pax	17 mm	7		1.60g
7	Fortuna	17 mm	7		2.27g
8		17 mm	6		2.01g
9	Marti Pacifero	17 mm	7		
10		15 mm	8		1.90g

Divo Claudio

Altar type

11		19 mm	7	3721	1.73g
12		17 mm	11	3352	1.18g
13		17 mm	5	3353	1.49g
14		17 mm	6	3717	1.61g
15		17 mm	6	3669	2.76g
16		17 mm	1		1.54g
17		16 mm	1		
18		16 mm	7		1.70g
19		15 mm	7		1.23g
20		11 mm			

Eagle type

21		21x16 mm	12		2.25g
22		20x14 mm	8	3743	1.84g
23		20 mm	6		1.38g
24		18 mm	1	3724	2.21g
25		18 mm	6	3742	1.71g
26		18 mm		3667	1.64g
27		16 mm	2	3675	1.00g
28		15 mm	1		2.09g

Aurelian

29	FIDES -	19 mm	1	3357	1.42g

B GALLIC EMPIRE

Victorinus

30	Providentia	20 mm	12		4.15g

Invictus

31		17 mm	12	3719	2.62g
32		17 mm	1		1.12g

33	16 mm	5	3726	0.79g
	Pax Aug			
34	18 mm	6		0.96g
	Tetricus I and II			
	Fides Militum			
35	19 mm	10	3733	2.15g
36	14 mm	12		1.87g
	Hilaritas Augg			
37	20 mm	2		2.91g
38	19 mm	6	3725	1.72g
39	18 mm	4	3666	1.63g
40	17 mm	6		1.84g
41	16 mm	7	3215	1.52g
	Laetitia			
42	19 mm	6		1.16g
43	16 mm	6		2.24g
	Pax Aug			
44	19 mm	1	3354	1.75g
45	19 mm	5		0.79g
46	19 mm	5		1.40g
47	18 mm	6	3720	1.80g
48	18 mm	11		1.02g
49	17 mm	6	3288	2.08g
50	17 mm	11	3319	2.17g
51	17 mm	7	3358	0.61g
52	17 mm	5	3735	0.92g
53	17 mm	11		1.80g
54	17 mm	5		1.96g
55	17 mm	4		0.62g
56	17 mm	6		1.86g
57	17 mm	12		1.49g
58	17 mm	6		2.41g
59	16 mm	4	3722	1.29g
60	16 mm	12	3660	1.64g
61	16 mm	12		1.47g
62	15 mm	5	3737	1.62g
63	15 mm	7	3673	1.06g
64	14 mm	5		1.28g
65	14 mm	5		0.61g
	Pietas			
66	18 mm			1.94g
67	16 mm	1	3674	1.91g
	Princ Ivvent			
68	17 mm	4		1.55g

Salus Augg

69	PAX- (wrong leg!)	20 mm	4		2.10g
70		20 mm	11	3221	1.05g
71		18 mm	5		1.16g
72		18 mm	7		0.73g
73		17 mm	6		2.32g

Spes

74		20 mm	11		2.87g
75	(left-facing bust)	19 mm	12		1.83g
76		18 mm	5	3223	0.87g
77		18 mm		3234	1.46g
78		18 mm	6		1.37g
79		18 mm	6		1.33g
80		18x15 mm	7		2.19g
81		17 mm	10	3718	1.82g
82		17 mm	3		1.58g
83		16 mm	12		1.51g
84		15 mm	12	3231	0.56g

Victoria/Comes Aug

85		19 mm	12		2.02g

Virtus Aug

86		17 mm	5		3.11g
87		17 mm	7		1.53g
88		16 mm	6		1.55g
89		16 mm	12		1.53g

Type of other emperor

90	Providentia, of Postumus' type	16 mm	6		1.78g

Tetricus I, uncertain rev.

91		18 mm			1.52g
92		18 mm		3228	0.89g
93		17 mm		3662	0.85g
94		16 mm		3671	1.86g
95		16 mm	12/6		1.49g
96		16 mm	12/6		2.52g
97		15 mm	1		1.45g

Tetricus II, uncertain rev.

98		16 mm+		3229	0.32g
99		16 mm		3235	1.87g

Uncertain fem.fig.rev.

100		16 mm	1		0.88g
101		16 mm	6		

Uncertain figure rev.

102		21 mm	10		4.42g

103		17 mm	5	3723	1.81g
104		15 mm	2		

Uncertain minims

105		9 mm		3316	0.38g
106		8 mm		3233	0.24g

Unclassifiable

107		17 mm		3665	0.97g
108		16 mm		3318	1.69g
109		16 mm	12	3664	1.09g
110		15 mm		3230	1.32g

Bristol

1	Tetricus I Pax rev'd	18 mm	5		1.92g
2	No leg Fem.fig.,staff 1	12 mm	3		0.83g

Gatcombe (1966)

GALLIC EMPIRE

Tetricus I and II

Pax Aug

1	16 mm	2	44	

Pietas

2	17 mm	9	87	

Spes

3	19 mm	6	6	

Virtus Augg

4	17 mm	6	88	

Uncertain minims

5	12 mm		7	
6	11 mm	11/5	8	

King's Weston Park Villa

A CENTRAL EMPIRE

Claudius II

1	14 mm		16	

B GALLIC EMPIRE

Tetricus I and II

2		16 mm		17

Uncertain minims

3		12 mm	11	18
4		10 mm	7	19

Unclassifiable

5		14 mm		20

Sea Mills

A CENTRAL EMPIRE

Claudius II

1		19 mm	1	
2		16 mm	3	

Divo Claudio

Altar type

3		16 mm	6	

B GALLIC EMPIRE

Victorinus

4	Invictus	17 mm	12	114

Tetricus I and II

Pax Aug

5	SPES AVGG	16 mm	4	128
6		16 mm	12	
7		16 mm	7	
8		11 mm	8	

Pietas

9		18 mm	7	
10		16 mm	7	254

Spes

11		19 mm	6	
12		18 mm	1	
13		16 mm	12	270

Salus Augg

14		11 mm	1	

Virtus Augg

15	22 mm	6	146
16	17 mm	1	146

Uncertain figure reverse

17	Pin fig.r. (Spes deriv.)	12 mm	9

Uncertain minims

18-21	3x12 mm 1x10 mm	

Unclassifiable

22	14 mm	3

Unprovenanced minims (from Bristol area, single deposit)

All are GALLIC EMPIRE types

Recognisable types:-

Invictus x 2	(1x15 mm, 1x12 mm)
Pietas x 3	(1x11 mm, 2x9 mm)
Salus x 1	(12 mm)

Others:-

1x14 mm
1x12 mm
3x11 mm
5x10 mm
1x9 mm
1x8 mm

Wiltshire

Atworth (DEVM)	12
Berwick St James (DEVM)	1
Box House (DEVM)	1
Broad Hinton (DEVM)	1
Cold Kitchen Hill (DEVM)	18
Colerne Park (DEVM)	1
Cricklade (DEVM)	10
Easton Grey (DEVM)	4
Market Lavington (DEVM)	1
Mildenhall - Cunetio - (DEVM)	126
Stockton Earthworks (DEVM)	2
Wanborough (13 at DEVM, 1 at ASHM, 193 at SWINM)	207
Wanborough Plain (NEWB)	2
Westbury Ironworks (DEVM)	25

	410

Atworth

A CENTRAL EMPIRE

Diva Claudio

Altar type

1		15 mm	5	19

B GALLIC EMPIRE

Tetricus I and II

Pax Aug

2		15 mm	10	

Spes

3		18 mm	11	

Tetricus I, uncertain rev.

4		16 mm	11	25
5		14 mm	8	29

Uncertain figure rev.

6		15 mm	6	37

Uncertain minims

6		15 mm	6	37

Uncertain minims

7-12		3x12 mm 3x10 mm	

Berwick St James

1	Tetricus I	Illeg.	15 mm	

Box House

Claudius II

1	FIDES EX(er)CI(ti)		18 mm	12

Broad Hinton

1	Tetricus II	(Spe)S-	18 mm	11

Cold Kitchen Hill

A CENTRAL EMPIRE

Gallienus

1		18 mm	11
2	Virtus Augusti, as RIC 330	17 mm	12

Divo Claudio

Eagle type

3		19 mm	12
4		18 mm	12

B GALLIC EMPIRE

Tetricus I and II

Hilaritas Augg

5		18 mm	3
6		17 mm	6
7		13 mm	3

Laetitia

8		18 mm	7
9		17 mm	11

Pax Aug

10		21 mm	6

Salus Augg

11		15 mm	4

Spes

12		19 mm	6

Victoria/Comes Aug

13	(C)OMES	17 mm	6

Virtus Aug

14		21 mm	6
15		20 mm	11

Tetricus I, uncertain rev.

16		18 mm	4

Uncertain figure reverse

17	Mars derivative?	16 mm	3

Uncertain minim

18		13 mm	

Colerne Park

1	Tetricus II Pax	17 mm	6

Cricklade

A CENTRAL EMPIRE

Divo Claudio

Altar type

1		18 mm	7	33
2		17 mm	6	17
3		15 mm	1	9

Eagle type

4		18 mm	12	11

B GALLIC EMPIRE

Victorinus

5	Salus	15 mm	4	25

Tetricus I and II

Spes

6		18 mm	7	26
7		15 mm	10	47
8		15 mm	7	24

Uncertain minims

9		12 mm	10
10		12 mm	32

Easton Grey

GALLIC EMPIRE

Victorinus

1	Pax	18 mm	12

Tetricus I and II

2	HILARIT(as)	17 mm	10
3	Tetricus II Pietas-implements	17 mm	11

4	Tetricus II Fem. fig.1	18 mm			

Market Lavington

1	-TETRI- SPES-	16 mm	2		

Mildenhall

A CENTRAL EMPIRE

Gallienus

1	Panther 1	18 mm	1	99	

Claudius II

2	Marti Pacifero (as RIC 72)	17 mm	1	96	

Divo Claudio

Altar type

3		15 mm	2	24	2.04g
4		15 mm	6	28	
5		15 mm	1	29	
6		14 mm	7	25	0.89g
7		14 mm	1	23	0.53g
8		11 mm	6	26	0.58g
9		10 mm		191	

Eagle type

10		15 mm	1	93	
11		12 mm	12	30	

B GALLIC EMPIRE

Postumus

12	Iovi Statori	15 mm	6	209	

Victorinus

13	Fem.fig.stg.1.	13 mm	11	156	0.85g

Invictus

14		16 mm	11	170	
15		14 mm	4	162	0.68g
16		14 mm	3	174	0.34g

Tetricus I and II

Fides Militum

17		16 mm	4	12	1.98g
18		15 mm	2	187	

Hilaritas/Laetitia hybrid

19		13 mm		154	1.10g

Pax Aug

20		17 mm	5	95	
21		16 mm	11	92	
22		16 mm	7	89	1.29g
23		16 mm	3	55	1.47g
24		15 mm	3	196	
25		15 mm	5	179	
26		15 mm	11	54	2.13g
27		15 mm	12	186	

Pietas

28		15 mm	2		
29		14 mm	5	160	0.88g
30		11 mm	11	192	
31		10 mm	7	151	0.33g

Salus Augg

32		12 mm	6	173	
33		10 mm	11	86	0.38g

Spes

34		18 mm		114	
35		16 mm	5	205	
36		16 mm	6	63	
37		16 mm	6	169	
38		16 mm		61	
39		15 mm		13	1.16g
40		12 mm	7	163	1.26g
41		12 mm		181	

Victoria/Comes Aug

42	Comes	16 mm	5	59	

Virtus Aug

43		17 mm	1	143	
44		14 mm	11	235	1.46g
45		10 mm	11	152	0.60g

Tetricus I, uncertain rev.

46		20 mm		58	1.75g
47		18 mm	12	208	

48		17 mm	3	60	
49		17 mm			
50		16 mm		172	
51		16 mm	2	94	
52		16 mm		62	
53		15 mm	2	183	
54		15 mm	7	91	
55		15 mm		85	0.77g
56		15 mm	5	80	2.28g
57		14 mm	6	56	0.75g
58		14 mm	5	88	1.26g
59		14 mm	9	197	

Tetricus II, uncertain rev.

60		16 mm	8	185	

Uncertain female figure rev.

61		16 mm	9	177	
62		15 mm	2	206	
63		15 mm	8	155	1.65g
64		16 mm	12	90	1.93g
65		14 mm	6	84	1.06g

Pointed-face type

66		15 mm	12	234	1.59g
67		15 mm	3	236	1.89g
68		14 mm	2	233	0.93g
69		16 mm	11	57	1.12g
70		14 mm	12	158	

Bordered minims

71		13 mm	7		
72		13 mm	2	83	0.60g

Uncertain minims

73-111		7x13 mm 7x12 mm 15x11 mm 2x10 mm 7x9 mm 1x8 mm			

Man with shield rev.

112		18 mm	11	123	
113		15 mm	8	78	

Two-figure types

114	1 large central, 1 or 2 subsid. figs.	16 mm	1	764	
115	2 large figs.	16 mm	7	98	

Unclassifiable

116-126		1x17 mm			

2x16 mm
1x15 mm
6x14 mm

Stockton Earthworks

1	Tetricus II	Spes	16 mm	5	20	
2	-V-	Illeg.	12 mm		24	

Wanborough

A CENTRAL EMPIRE

Gallienus

1		19 mm	6	DEVM	
2		17 mm		BR5xa	1.23g
3	Crude animal	17 mm	11	BR5xa	1.30g
4	"zebra" r. (see N.C. 1939, 291-2)	14 mm	1	ASHM	1.50g

Divo Claudio

Altar type

5	15 mm		BR5g	1.64g
6	15 mm	5	BR2a	1.55g
7	15 mm		BR6f	0.77g
8	15 mm	11	BR16a	1.10g
9	14 mm	7	BR12c	0.87g
10	14 mm	11	BR10r	1.31g
11	13 mm	2	BR6n	0.93g
12	13 mm	6	BR9a	1.38g
13	13 mm	6	BR10q	0.92g
14	12 mm		BR9g	0.69g

Eagle type

15	14 mm	5	BR8a	1.85g
16	14 mm	7	BR176	1.09g
17	12 mm	7	BR9xt	0.87g
18	12 mm	12	BR6e	1.03g

Aurelian/Probus

19	2-figures	13 mm	8	DEVM	

Probus

20	Temple front.	14 mm	9	BR12f	0.78g

B GALLIC EMPIRE

Postumus

21	Hercules figure	17 mm	6	BR4g	0.99g

22	Pax	20 mm	11	DEVM	
		Victorinus			
		Aequitas			
23		17 mm	5	BR6g	2.07g
		Invictus			
24	-S CAES (Tetrican (leg.)	19 mm	6	BR10m	2.62g
25		17 mm	11	BR7c	0.91g
26		16 mm		BR11a	1.95g
27		15 mm	3	BR7e	1.02g
28		13 mm	12	BR7d	0.89g
29		13 mm	4	BR10g	0.98g
		Pax Aug			
30		17 mm	4	BR9u	2.45g
		Virtus Aug			
31		18 mm	4	DEVM	
		Providentia			
32		18 mm	6	BR9xi	1.06g
33		16 mm	11	BR66	1.39g
		Tetricus I and II			
		Fides Militum			
34		18 mm	11	DEVM	
35		18 mm	9	BR12g	2.22g
36		16 mm	5	DEVM	
37		15 mm	5	BR9k	1.09g
		Hilaritas Augg			
38		18 mm		BR13b	3.48g
39		18 mm	11	BR10o	1.48g
40		17 mm	12	BR10l	1.61g
41		16 mm	3	BR9u	1.69g
42		15 mm	12	DEVM	
43		14 mm	11	BR12h	1.14g
44		13 mm		BR13c	0.71g
45		12 mm	2	BR6p	0.83g
		Laetitia			
46		18 mm	12	DEVM	
47	HILA-	16 mm	6	BR9n	1.31g
		Pax Aug			
48		21 mm	6	BR8p	2.60g
49		20 mm	8	BR8e	1.80g
50		20 mm	11	BR8m	1.84g

51		19 mm	1	BR8g	1.60g
52		19 mm	11	BR9xu	1.53g
53		19 mm	4	BR1	2.52g
54		18 mm	11	BR26	2.08g
55		18 mm	6	BR10k	3.08g
56		18 mm	1	BR13d	2.32g
57		18 mm	12	BR9f	1.35g
58		17 mm	11	DEVM	
59		17 mm	6	BR6j	1.55g
60		17 mm	6	BR9s	1.66g
61		17 mm	7	BR9xu	2.06g
62		15 mm	8	BR6h	1.25g
63		15 mm	4	BR9xh	1.49g
64		15 mm	3	BR8i	1.16g
65		15 mm	2	BR8k	1.03g

Pietas

66		17 mm	2	BR91	2.97g
67		16 mm	4	BR5xp	2.20g
68		15 mm	10	BR9h	0.82g
69		14 mm	5	BR6k	1.18g
70		14 mm	7	BR16b	1.06g
71		13 mm		BR12e	0.41g
72		13 mm	10	BR6i	0.61g
73		12 mm	9	BR6m	0.70g

Salus Augg

74		17 mm	1	BR9o	2.05g
75		16 mm		BR5a	2.12g
76		16 mm		BR9h	1.29g
77		15 mm	2	BR5u	0.99g
78		15 mm		BR5m	1.53g
79		15 mm	10	BR16c	1.09g
80		14 mm		BR9xb	0.89g
81		13 mm		BR5q	0.95g
82		13 mm	12	BR5d	0.63g
83		10 mm	9/3	BR5xc	0.49g

Spes

84		19 mm	6	BR2c	1.48g
85		18 mm	3	DEVM	
86		18 mm	12	BR61	2.56g
87		18 mm	7	BR5xg	1.56g
88		18 mm	6	BR4c	2.88g
89		18 mm	6	BR3	2.02g
90	CAST copy	17 mm	12	BR5xh	2.28g
91		16 mm	6	DEVM	
92		16 mm	6	BR9xf	2.08g
93		15 mm	7	BR9j	0.95g
94		14 mm	1	BR8n	1.63g
95		13 mm	6	BR9i	0.45g
96		13 mm	1	BR9xe	0.64g
97		13 mm	8	BR14b	0.69g

Victoria/Comes Aug

98		16 mm	8	BR10n	3.92g
99		15 mm	5	BR10h	2.32g

Virtus Aug

100		21 mm	2	BR51	3.50g
101		18 mm	2	BR5xh	1.96g
102	(bust of Marius)	18 mm	12	BR5x1	1.50g
103		17 mm	9	BR9m	1.91g
104		17 mm	8	BR9xw	1.82g
105		16 mm	6	BR8c	1.20g

Tetricus I, uncertain rev.

106		20 mm		DEVM	
107		19 mm	12	BR6c	1.12g
108		18 mm	6	BR5v	1.97g
109		18 mm		BR9c	1.55g
110		16 mm	5	BR56	1.32g
111		15 mm		BR8h	1.42g
112		15 mm		BR5xa	0.68g
113		13 mm		BR9t	0.74g

Tetricus II, uncertain rev.

114		16 mm		BR9x1	1.45g
115		16 mm	5	BR8d	1.10g
116		15 mm	6	BR4c	2.88g
117		15 mm		BR6a	1.71g

Uncertain female figure

118		20 mm	10	BR81	3.29g
119		16 mm	6	BR9xg	1.37g
120		16 mm	5	BR4f	2.51g
121		15 mm	2	BR52	1.49g
122		15 mm	12	BR4b	1.75g
123		14 mm	7	BR17a	0.42g
124		14 mm	2	BR10b	1.02g
125		14 mm	2	BR5x	0.38g

Uncertain figure reverse

126		17 mm	4	BR10p	1.60g
127	Male fig.r.	16 mm	2	BR6s	1.48g
128		16 mm	12	BR5xo	1.57g
129	Male fig.r.	16 mm	4	BR14a	2.00g
130	Male fig.l.	12 mm	4	BR9y	0.43g

Design reverse

131	Large X	13 mm	2	BR4e	1.35g
132	Star, central flan.	10 mm		BR5p	0.39g

Uncertain minims

133-70	6x13 mm
	19x12 mm
	6x11 mm
	3x10 mm
	3x9 mm
	1x7 mm

Blank

171	Both faces unstruck. Minim type flan.	12 mm		BR13a	0.66g

Unclassifiable

172-206		1x19 mm 4x18 mm 6x17 mm 10x16 mm 8x15 mm 6x14 mm			

Wanborough Plain

1	Tetricus I Aequitas fig.	18 mm	11	286	1.94g

Westbury Ironworks

A CENTRAL EMPIRE

Gallienus

1	Panther, l.	19 mm	2

Claudius II

2	Fem.fig.stg.	20 mm	
3	Fem.fig.stg.l.	17 mm	11
4		15 mm	12

B GALLIC EMPIRE

Postumus

5	Oriens	23 mm	7

Victorinus

6	SALVS AVG	20 mm	5

Invictus

7		21 mm	12
8		15 mm	6

Tetricus I and II

Pax Aug

9		18 mm	
10		17 mm	11

Salus Augg

11	14 mm	8

Spes

12	17 mm	8
13	17 mm	11

Victoria/Comes Aug

14	19 mm	4

Virtus Aug

15	18 mm	12
16	18 mm	4
17	17 mm	5
18	15 mm	5

Tetricus I, uncertain rev.

19	15 mm	12

Figure reverse type

20	15 mm	3

Uncertain minims

21-5	3x12 mm	
	1x10 mm	
	1x9 mm	

Dorset

Colliton Park (DCHM)	290
Dorchester (DCHM)	1
	291

Colliton Park

A CENTRAL EMPIRE

Gallienus

1	IOVI CONS AVG Goat, r.	17 mm	2	3685D
2	Doe/stag, r.	16 mm	2	C782

Claudius II

3		14 mm	4	C655
4	Blank	13 mm		4376B

Hybrid

5	Pietas - Tetrican	16 mm	7	2536B

Divo Claudio

Altar type

6		19 mm	6	35C
7		18 mm	7	1878
8		18 mm	1	1428C,D
9		17 mm	7	C842
10		17 mm	7	C805
11		17 mm	6	1473C,A
12		17 mm	7	1927
13		17 mm		1978B
14		17 mm	2	1982
15		17 mm	7	C39
16		17 mm	7	2277A
17		17 mm	7	4074B
18		16 mm	6	2054
19		16 mm	7	2602
20		15 mm	6	1480C,A
21		15 mm	1	1534C,C
22		14 mm	1	3538B

Eagle type

23		17 mm	1	3088A
24		17 mm	12	C533
25		16 mm	6	4388B
26		13 mm	6	4308B
27		11 mm	11	4036I

Quintillus

28	(Mars) VLTOR	18 mm	6	3743C

Aurelian

29	O(riens) AVG	18 mm	12	C521
30	Fig.similar to Aurelian's Oriens types	17 mm	7	625C,B
31	Fem.fig.l.	17 mm	12	1244C

Postumus

32		17 mm	11	3431D
33	Post's face	14 mm		1764C
34	Post's face	13 mm	1	1428C,K

Victorinus

35		15 mm	5	2330

Invictus

36		16 mm	5	1596C,B
37		22x16 mm	7	1502C,B
38		19 mm	7	2898C
39		17 mm	12	1473C,B
40		16 mm	3	1473C,E
41		16 mm	11	C1068
42		16 mm	10	2828D
43		16 mm	5	2147B
44		16 mm	9	4479B
45		14 mm	2	3294G
46		14 mm	11	1442C,F
47		13 mm	12	4375B
48		13 mm	6	1473C,N
49		13 mm	9	C875
50		9 mm		422C-B

Pax Aug

51		16 mm		2277C
52	Vertical sceptre	16 mm	11	2227
53		12 mm	11	422C-H

Salus Aug

54		18 mm	4	C4049A

Providentia Aug

55		16 mm	5	3327
56		15 mm	10	851C,B
57		13 mm	10	2159C
58		11 mm	8	422C-D
59		11 mm	6	1459C,D

Tetricus I and II

Figure with staff

60		15 mm	7	300C

Providentia Aug

61		17 mm	11	C762

Fides Militum

62		15x12 mm	9	1473C,M

63		13 mm	11	C3737C
64		12 mm	7	1502C,C
		Hilaritas Augg		
65		19 mm	12	C4500
66		16 mm	2	2401
67		10x13 mm	6	1095
		Laetitia		
68		16 mm	3	320C
69		13 mm	12	1125C
70		13 mm	5	2266
71		11 mm	5	C843
		Pax Aug		
72		22 mm	10	C4438
73		19x14 mm	8	C230
74		19 mm	12	3759B
75		18 mm	4	1473C,F
76		18 mm	7	1869C
77		18 mm	5	1442C,C
78		18 mm	6	C4120
79		17 mm	2	C4097A
80		17 mm	12	66A
81		17 mm	3	2918C
82		17 mm	6	C469
83	Transverse sceptre	17 mm	5	1428C,E
84		17 mm	3	7C
85		17 mm	12	3716H
86		17 mm	7	1695B
87		17 mm	1	861C,B
88		16 mm	9	2898F
89		16 mm	2	2875J
90		16 mm	10	2559
91		16 mm	11	C297
92		16 mm	10	2491
93		16 mm	1	422C-A
94		16 mm	4	C869
95		16 mm	1	861C,C
96		16 mm	5	4017B
97		15 mm	3	1630C,B
98		15 mm	6	1473C,G
99		15 mm	4	C423
100		14 mm	1	1420C,F
101		14 mm	12	2875L
102		14 mm	2	2246A
103		13 mm	11	4476C
104		13 mm		1915C
105		12 mm	2	1428C,L
106		12 mm	8	4036H
107		11x14 mm	9	2833B
108		11 mm	6	2149B
109		11 mm	8	1707C
		Pietas		
110		12 mm	7	2560B
111		19 mm	6	1830C

112		16 mm	12	1473C,L
113		14 mm	4	4074C
114		11x15 mm	1	422C-F
115		11 mm	1	2812
116		10 mm		C419

Salus Aug

117-21	Five O. & R. die-links	4x12 mm 1x11 mm	11,2,9, 10,9	1769C,D, E,G & H
122		10 mm	11	1866B
123		12 mm	10	2222C
124		19 mm	9	2828E
125		18 mm	1	4036E
126		18 mm		1534C,B
127		16 mm	6	4129C
128		16 mm	12	2459C
129		16 mm	11	C929B
130		15 mm	5	3051
131		15 mm	10	1704C
132		15 mm	9	C428
133		14x12 mm	1	537C,B
134		13 mm	12	3170C
135		13 mm		1847R

Spes

136		21 mm (die-diameter 17 mm)		
			2	2898E
137		20 mm	2	2037
138		19 mm	12	C541,A
139	-PVBLICA	19 mm	10	1772B
140		18 mm	7	C338
141		18 mm	9	3319
142		17 mm	4	2147A
143		17 mm	12	1845C
144		17 mm	6	C4223
145		17 mm	6	105A
146		16 mm	4	2023D
147		16x13 mm	11	2274C
148		16 mm	11	3716F
149		15 mm	12	3082
150		15 mm	7	1890A
151		13 mm	5	1838
152		10 mm	1	C374

Victoria/Comes Aug

153		15 mm	6	C758
154		12 mm	2	52C

Virtus Aug

155		18 mm	5	3105B
156		17 mm	4	2930F
157		15 mm	6	2494A
158		14 mm	11	C839A
159		13 mm	11	2147C

Tetricus I, uncertain rev.

160		19 mm	7	1937
161		19x13 mm	7	C917
162		18 mm		3561B
163		17 mm		829C,C
164		17 mm	2	1046C
165		17 mm	12	1420C,E
166		17 mm	11	1848C
168		15 mm		839C,B
169		15 mm		2387
170		15 mm	3	C3732
171		14 mm		3698
172	(1/2 flan only)	14 mm		28980

Tetricus II, uncertain rev.

173		18 mm		3195L
174		17 mm	12	C4125
175		16 mm	10	3456E
176		15 mm	6	2135C
177		14 mm	10	2172A

Uncertain female fig.rev.

178		21 mm	7	C107
179		17 mm		2270
180		16 mm	7	2558
181	Salus deriv.	14 mm	7	3716J

Uncertain figure rev. type

182	Elfin fig., staff r.	18 mm	7	626C,B
183	Pin fig.	17 mm	7	2159B
184	Fig.adv.r.	15 mm	1	1897C
185		15 mm	3	4476B

Uncertain minims

186-271	20x13 mm
	26x12 mm
	22x11 mm
	9x10 mm
	5x9 mm
	2x8 mm
	1x7 mm
	1x6 mm

Unclassifiable

272-290	2x18 mm
	5x17 mm
	2x16 mm
	8x15 mm
	2x14 mm

Dorchester (Dorset County Hospital)

1	Tetricus I Pax Aug	14 mm	8	

Somerset

Charlton (BRITM)	1

Charlton

1	Tetricus I SALVS AVGG	22 mm	6

Site finds from the counties of Berkshire and Hampshire, described in chaper 7

Berkshire

Combe (NEWBM)	1
Compton (NEWBM)	1
Cox Green Villa (RM)	3
Maddle Farm (Knighton Bushes, Lambourne). (The excavators).	2
Newbury (NEWBM)	1
Stanford-in-the-Vale (17 at RM, 14 at RUn)	31
Streatley (RM)	1
Thatcham Newtown (NEWBM)	9
	49

Combe

1	GALLIENVS AVG VICTORIA AUG	20 mm	12	379	1.94g

Compton (The Slade)

1	Tetricus II	pietas	18 mm	8	106	2.98g

Cox Green Villa

A CENTRAL EMPIRE

1	Claudius	Altar	15 mm	4	14	1.2g

B GALLIC EMPIRE

2	Victorinus	Invictus	15 mm	11	16	1.9g
3	Tetricus II	Pax Aug	20 mm	7	15	2.15g

Maddle Farm

1	Tetricus I/II	Spes				
2	Tetricus II	Comes Aug				

Newbury (Sewage works)

1	Tetricus I	Salus	18 mm	11	163	3.30g

Stanford-in-the-Vale

A CENTRAL EMPIRE

Claudius II

1	Fem.fig.l.	11 mm	8	RUn	

Divo Claudio

Altar type

2	17 mm	11	RM	0.85g
3	16 mm	2	RUn	
4	14 mm		RM	0.85g
5	9 mm	6	RUn	

Eagle type

6	14 mm	12	RUn	
7	12 mm	3	RM	0.8g

B GALLIC EMPIRE

Victorinus

8	Virtus	19 mm	11	RM	2.15g

Tetricus I and II

Fides Militum

9		14 mm	2	RUn	
10		13 mm	5	RUn	

Laetitia

11		8 mm	2	RM	0.5g

Pax Aug

12		12 mm	8	RM	0.9g

Pietas

13		17 mm	11	RM	1.85g
14		11 mm	8	RM	0.5g

Spes

15		17 mm	11	RUn	
16		16 mm	7	RUn	
17		16 mm	7	RUn	
18		15 mm	9	RM	1.5g
19		15 mm	2	RUn	
20	Third of flan missing	15 mm	5	RUn	

Tetricus I, uncertain rev.

21		16 mm	10	RUn	
22		15 mm	12	RUn	
23		14 mm	12	RM	1.05g

Gallic Empire, uncertain female fig.

24		18 mm	12	RM	1.15g

Uncertain minims

25		12 mm	4	RUn	
26		9 mm		RM	
27		9 mm		RM	
28		9 mm		RM	
29		8 mm		RM	0.15g
30		7 mm		RM	

Unclassifiable

31		17 mm		RM	1.45g

Streatley

1	Tetricus I Pax Aug	16 mm			1.80g

Thatcham

A CENTRAL EMPIRE

Claudius II

1	Silver washed coin Male fig.stdg l.	18 mm	5		1.75g

Divo Claudio

Funeral Pyre type

2		15 mm	12		1.17g

B GALLIC EMPIRE

Victorinus

3	Virtus	16 mm	11		0.78g

Tetricus I and II

4	Pietas	10 mm			0.32g
5	Salus	17 mm	12	134	1.62g
6	Salus	14 mm	7		1.10g
7	Uncertain fem.fig.l.	14 mm	3		0.91g
8	Male fig.l.	15 mm	9		0.91g

Illegible

9		16 mm	1		1.36g

Hampshire

Andover (WINM)	4
Ashley Camp (WINM)	14
Bitterne (SOM)	41
Burghclere (NEWBM)	1
Denmead, Mead End (PORM)	1
Micheldever (Personal collection)	6
Mulberry/Park Lane Common (PORM)	1
Neatham (BskM)	215
Otterbourne (Personal collection)	2
Portchester (PORM)	9
Redbridge (SOM)	11
Silchester (1048 at RM, 2 at ASHM, 5 from 1975 Fulford excavations, 56 from surface - M.Corney)	1111
Wickham Bushes (RM)	6
Winchester (47 at WINM, 298 at WINEx, 3 from personal collection)	346

	1768

Andover

GALLIC EMPIRE

Victorinus

1	Invictus	14 mm	5	C8

Tetricus I and II

2	Fem.fig.stg.l.	16 mm	6	C9
3	Pax	12 mm	8	C11

Uncertain minim

4	Spikey design	10 mm		C7

Ashley Camp

A CENTRAL EMPIRE

Divo Claudio

Altar type

1		18 mm	12	C3979
2		15 mm	12	C3938

B GALLIC EMPIRE

Victorinus

3	Invictus	11 mm	5	C3975

Tetricus I and II

Hilaritas Augg

4		13 mm	6	C3972

Pietas

5		18 mm	11	C3978

Spes

6		17 mm	7	C3977
7		12 mm	12	C3976

Uncertain figure type

8	Virtus/Laetitia hybrid	17 mm	8	C3970
9		16 mm	9	C3971
10		15 mm	12	C3967
11		17x10 mm	11	C3968

Uncertain minims

12		13 mm		C3969
13		12 mm		C3973
14		11 mm	10	C3974

Bitterne

A CENTRAL EMPIRE

Gallienus

1		15 mm	
2	Stag, l.	11 mm	6

Claudius II

3	Fides Militum	21 mm	7
4	Female fig. l.	15 mm	7

Divo Claudio

Altar type

5		20x15 mm	6
6		19 mm	11
7		15 mm	7

B GALLIC EMPIRE

Victorinus

8	Design	15 mm	12

Invictus

9		16 mm	10

Tetricus I and II

Fides Militum

10		17 mm	6

Laetitia

11		17 mm	4

Pax Aug

12		20 mm	12
13		19 mm	5
14		17 mm	9
15		16 mm	2
16		15 mm	11
17		15 mm	5
18		15 mm	5
19		14 mm	12

20	13 mm	9	
21	13 mm	7	
22	13 mm	7	
23	13 mm	12	
24	12 mm	5	
25	10 mm	6	

Nobilitas Augg

26	16 mm	5	

Pietas

27	17 mm	9	

Salus Augg

28	20 mm	11	
29	19 mm	9	
30	18 mm	2	

Spes

31	18 mm	4	
32	15 mm	5	
33	14 mm	4	
34	12 mm	11	

Virtus Aug

35	17 mm	5	

Uncertain female figure

36	14 mm	9	
37	14 mm	7	

Uncertain minims

38	12 mm	9	
39	10 mm		
40	9 mm	6	

Unclassifiable

41	15 mm		

Burghclere

1	Claudius II GENIUS EXERCI	22 mm	6	318	2.79g

Denmead

1	10 mm	9	

Micheldever

A CENTRAL EMPIRE

Divo Claudio

Eagle type

1		18 mm	11	1.55g

B GALLIC EMPIRE

Victorinus

2	Invictus	17 mm	3	1.15g

Tetricus I and II

Salus

3		17 mm	1	0.57g
4		9 mm	6	0.70g

Tetricus I, uncertain rev.

5		15 mm	6	1.67g
6		15 mm		0.65g

Mulberry

1		14 mm	4	1.49g

Neatham

A CENTRAL EMPIRE

Gallienus

1	CONCORDI(a)	19 mm	12	C137
2		16 mm	6	120

Claudius II

3		17 mm	12	377
4	Poss.Virtus	14 mm	11	C4

Divo Claudio a Altar type

5	18 mm	8	C9
6	17 mm	1	C4
7	16 mm	7	C9
8	15 mm	1	C12
9	14 mm		C13
10	12 mm		C143
11	9 mm	6	C233

b Eagle type

12		17 mm	11	C10
13		16 mm	6	446
14		16 mm	2	C42
15		16 mm	12	SF69A
16		12 mm	5	445

B GALLIC EMPIRE

Postumus

17	Galley r.	13 mm		Lab72 Elmer 130
18	O(rien)S AUG	20 mm	12	309 Elmer 568/9

Victorinus

Invictus

19		22 mm	10	C14
20		16 mm	7	C39193
21		16 mm	1	C15
22		15 mm	9	C22
23		15 mm	12	C159
24		14 mm	7	C70
25		14 mm	6	C11
26		14 mm	12	10
27		12 mm	4	C6
28		11 mm		62
29		8 mm	5	C13

Other

30	Pax (vert.sc.)	17 mm	6	248
31	(P)AX A(ug) VI	15 mm	6	C24
32	Pax	14 mm	12	275
33	(Salus A)UG	19 mm	5	C8
34		13 mm		C12

Tetricus I and II

Fides Militum

35		14 mm	5	C39
36		11 m	6	C45
37		9 mm	5	C8

Hilaritas Augg

38		18 mm	11	C96
39		15 mm	5	C5
40		13 mm	12	C4
41		13 mm	8	C3

Laetitia

42		20 mm	10	C148
43		12 mm		C23

Pax

44	19 mm	6	375
45	18 mm	11	C29
46	18 mm	10	C10
47	18 mm	11	Lab146
48	16 mm	4	C7
49	16 mm	2	C40
50	16 mm	10	C14
51	16 mm	6	C45
52	15 mm	5	Lab86
53	15 mm	2	C19
54	15 mm	11	C58
55	15 mm	10	C5
56	14 mm	8	C18
57	14 mm	11	78
58	14 mm	11	517
59	14 mm	12	C7
60	14 mm	11	C6
61	14 mm	7	C22
62	13 mm	4	C127
63	13 mm	3	C17
64	13 mm	8	SF15A
65	13 mm	1	262
66	13 mm	9	C9
67	13 mm	11	C113
68	12 mm	12	66
69	11 mm	3	C62
70	11 mm	9	357
71	11 mm	10	CS187
72	11 mm	2	334
73	11 mm	7	505
74	10 mm	8	C27
75	10 mm	3	341

Pietas, Sacrificial Implements

76	20 mm		C111
77	17 mm	9	C15189
78	17 mm	2	C32
79	16 mm	7	SF149A
80	13 mm	7	C1
81	12 mm		C133
82	12 mm	7	C51
83	11 mm	9	C33
84	10 mm	10	C176
85	9 mm	7	C7

Salus Augg

86	17 mm	8	Lab180
87	17 mm	9	C40191
88	16 mm	6	448
89	16 mm	11	C40
90	15 mm	10	C163
91	14 mm	2	C20
92	13 mm	7	C9
93	13 mm	11	355
94	12 mm		356

Spes

95	20 mm	7	C13
96	19 mm	1	C217
97	18 mm	11	C5
98	17 mm	12	C281
99	16 mm	5	C4
100	16 mm	2	C31
101	15 mm	5	C205
102	15 mm	5	C2
103	15 mm		542
104	15 mm	12	SF96A
105	13 mm	11	276
106	13 mm	10	298
107	11 mm	6	C95
108	10 mm	12	C142

Victoria Aug

109	18 mm	3	C97
110	17 mm	1	C10
111	13 mm	8	151

Virtus Aug

112	16 mm	12	C126
113	15 mm	11	C55
114	13 mm	9	277
115	13 mm	1	C19

Tetricus I, rev.unidentified

116	14 mm	12	C53
117	13 mm		C88
118	13 mm	8	C24
119	13 mm	2	C7
120	13 mm		C12
121	13 mm		70

Tetricus II, rev.unidentified

122	13 mm	11	Lab72
123	10 mm		C23
124	10 mm	6	440

Mars, r.

125	15 mm	7	C1
126	15 mm	10	219
127	14 mm	3	C9
128	11 mm	9	282
129	8 mm	6	C145

Unidentified minims

130-197	Sizes:-	13 mm x 1
		12 mm x 19
		11 mm x 15
		10 mm x 13
		9 mm x 9
		8 mm x 7

7 mm x 4

Unidentified figure types

198		20 mm	6	C101
199		17 mm	2	451
200		15 mm		C151
201		13 mm	2	C3

Design reverse

202		13 mm		C5
203		13 mm		C102

Unclassifiable - above minim size

204 - 215	Sizes:-	17 mm x 1 16 mm x 3 15 mm x 4 14 mm x 4		

Otterbourne

1	Tetricus II SP(es)AVGG	20 mm	6	2.57g
2	SA- Salus?	15 mm	11	1.25g

Portchester

A CENTRAL EMPIRE

Gallienus

1	VICTORIA AVGG	19 mm	12	657

Divo Claudio

Altar type

2		16 mm	11	1915

B GALLIC EMPIRE

Victorinus

3		14 mm		169
4		10 mm		168
5		15 mm		604

Tetricus I and II

6		17 mm	12	1286
7	Pax Aug	17 mm		170

Unclassifiable

8		16 mm		1137

9	14 mm	1907

Redbridge

A CENTRAL EMPIRE

Divo Claudio

Altar type

1	15 mm	6
2	11 mm	

Eagle type

3	17 mm	1
4	15 mm	2

B GALLIC EMPIRE

Victorinus

Invictus

5	19 mm	11
6	18 mm	
7	14 mm	5

Tetricus I and II

Laetitia

8	12 mm	2

Pax Aug

9	11 mm+	
10	12 mm	5
11	12 mm	12

Silchester, Reading Museum

A CENTRAL EMPIRE

Valerian

1	Fortuna?	18 mm	4	01735	1.5g

Gallienus

2		21 mm	3	01713	2.9g
3	Fortuna	17 mm	12	01715	1.9g
4	(Fort)VNA	15 mm		01715	0.81g
5	Fortuna	15 mm	12	01715	1.5g
6	Animal type	13 mm		01708	0.8g

Claudius II

7	Male fig.	17 mm	10	01762	3.2g
8	Jupiter				

Divo Claudio

9	With wrong rev. (Io)VI (Sta)TORI	18 mm	12	01720	1.95g

Altar type

10		20 mm	7	01710	1.5g
11		17 mm	6	01710	1.0g
12		17 mm	12	01710	1.8g
13		17 mm	11	01710	1.4g
14		17 mm	7	01710	1.5g
15		16 mm	12	01709	1.5g
16		16 mm	12	01710	1.25g
17		16 mm	12	01710	1.4g
18		16 mm	1	01710	1.3g
19		16 mm		01710	1.9g
20		16 mm	1	01710	2.0g
21		15 mm	6	01710	1.0g
22		15 mm	6	01710	0.7g
23		15 mm	12	01710	1.3g
24		15 mm		01712	0.9g
25		14 mm		01710	0.95g
26		14 mm	12	01710	1.6g
27		14 mm	12	01710	1.6g
28		14 mm	9	01710	1.3g
29		14 mm		01710	0.9g
30		14 mm		01710	0.9g
31		14 mm	1	01710	1.3g
32		14 mm		01712	1.23g
33		14 mm		01712	0.76g
34		12 mm	12	01710	1.2g
35		12 mm	6	01710	0.9g
36		12 mm		01711	0.92g
37		8 mm		01711	0.9g
38		11 mm		01711	0.4g
39		10 mm		01711	0.85g
40		10 mm		01711	0.64g
41		9 mm		01711	0.3g
42		12 mm		01711	0.69g

43		16 mm	6	01710	1.2g
44		15 mm	12	01710	0.9g
45		12 mm	6	01710	0.75g
46		14 mm	5	01710	0.8g
47		15 mm		01710	1.0g
48		15 mm	1	01710	0.6g
49		15 mm		01710	
50		16 mm		01710	
51		18 mm		01710	
52		15 mm		01710	
53		15 mm		01710	
54		16 mm	11	01710	1.6g
55		16 mm	12	01710	1.5g
56		13 mm		01710	0.4g

Eagle type

57		19 mm		01710	2.0g
58		19 mm	7	01710	3.3g
59		17 mm		01710	2.13g
60		17 mm	12	01710	1.1g
61		16 mm		01710	1.43g
62		16 mm		01710	2.24g
63		16 mm	5	01710	2.2g
64		15 mm	6	01710	1.9g
65		14 mm	1	01710	1.7g
66		15 mm		01710	
67		15 mm		01710	
68		14 mm		01710	
69		14 mm		01710	
70		15 mm		01710	
71		15 mm		01710	
72		14 mm		01710	
73		14 mm		01710	
74		17 mm		01710	

Aurelian/Probus

75	2-figure rev.	9 mm	6	01702	0.55g

B GALLIC EMPIRE

Postumus

Jupiter

76	Iovi Statori	15 mm		01720	2.2g
77	Iovi Statori	14 mm		01769	1.06g

Victorinus

Animal (from Gallienus)

78	Doe walking r.	17 mm	1	01708	1.75g

Aequitas

79		18 mm	6	01707	2.3g
80		17 mm	8	01769	1.5g
81		15 mm		01722	0.83g

Invictus

82		15 mm		01724	
83		19 mm		01724	3.2g
84		19 mm		01724	1.4g
85		18 mm		01724	1.69g
86		18 mm		01724	2.46g
87		18 mm	7	01724	3.5g
88		17 mm	6	01724	2.0g
89		16 mm		01724	1.68g
90		16 mm		01724	1.09g
91		16 mm		01724	1.5g
92		16 mm	2	01724	0.9g
93		16 mm		01725	2.1g
94		16 mm		01725	2.1g
95		15 mm		01724	0.74g
96		15 mm		01724	1.29g
97		15 mm		01724	1.6g
98		15 mm	4	01724	1.5g
99		15 mm	11	01724	1.6g
100		15 mm		01725	1.77g
101		15 mm		01725	1.55g
102		14 mm		01724	0.97g
103		14 mm		01724	0.74g
104		14 mm	11	01724	1.4g
105		14 mm		01725	0.63g
106		13 mm		01724	
107		13 mm		01724	
108		12 mm		01724	0.5g
109		12 mm	12	01724	0.8g
110		12 mm		01724	0.5g
111		11 mm	11	01724	0.6g
112		13 mm		01724	

Pax Aug

113	Vertical sceptre	20 mm	7	01713	2.0g
114	Vertical sceptre	19 mm		01714	
115	Vertical sceptre	18 mm		01726	

Providentia Aug

116	21 mm		01715	2.25g
117	17 mm		01715	1.13g
118	15 mm	6	01716	2.0g
119	15 mm	5	01715	0.7g
120	14 mm		01715	0.83g
121	15 mm		01715	1.48g
122	13 mm		01715	0.50g

Virtus Aug

123	17 mm	12	01754	1.8g
124	16 mm	12	01754	0.95g

Tetricus I and II

125	19 mm	11	01714	2.0g
126	17 mm		01714	2.5
127	17 mm	11	01714	1.7g
128	16 mm		01714	2.0g

129	16 mm		01714	1.53g
130	14 mm		01714	0.98g
131	15 mm		01714	2.84g
132	19 mm		01714	
133	14 mm		01714	

Hilaritas Augg

134	19 mm		01717	
135	19 mm	4	01717	2.1g
136	18 mm		01717	2.3g
137	20 mm		01717	2.29g
138	18 mm	11	01717	2.7g
139	17 mm		01717	2.67g
140	17 mm		01717	1.85g
141	18 mm	12	01769	3.5g
142	17 mm	7	01717	2.0g
143	17 mm	1	01717	1.5g
144	16 mm	7	01717	1.9g
145	15 mm	8	01717	0.7g
146	17 mm		01717	1.85g
147	15 mm		01757	0.73g
148	16 mm		01717	
149	16 mm		01717	
150	14 mm		01717	
151	15 mm		01717	
152	14 mm		01717	
153	12 mm		01718	1.0g
154	11 mm	10	01718	0.9g
155	10 mm	12	01718	0.7g
156	18 mm		01717	

Laetitia

157	16 mm	12	01721	1.4g
158	15 mm		01722	0.83g
159	17 mm	6	01721	1.95g
160	18 mm		01721	1.19g
161	16 mm		01721	0.88g
162	12 mm	5	01721	0.8g
163	12 mm		01721	0.57g
164	16 mm		01721	
165	14 mm		01721	
166	18 mm		01721	
167	16 mm		01721	
168	15 mm		01721	

Mars Victor

169	17 mm	6	01723	2.95g
170	16 mm	8	01723	2.3g
171	12 mm	5	01744	0.5g
172	14 mm	7	01723	0.75g

Pax Aug

173	15 mm		01727	
174	13 mm		01727	
175	16 mm	3	01726	2.0g
176	14 mm	11	01734	1.7g
177	17 mm	1	01726	1.6g

178	16 mm	4	01732	1.9g
179	18 mm	6	01726	2.5g
180	18 mm	6	01726	1.45g
181	18 mm	5	01726	2.0g
182	23 mm	11	01726	1.55g
183	18 mm		01726	
184	17 mm	6	01726	2.5g
185	16 mm	11	01726	2.4g
186	18 mm	6	01726	2.2g
187	20 mm	3	01730	2.7g
188	19 mm		01726	2.27g
189	19 mm	12	01726	2.0g
190			01726	
191	19 mm	3	01732	3.2g
192	18 mm	2	01726	2.8g
193	18 mm	5	01726	1.7g
194	18 mm	11	01726	2.5g
195	18 mm	5	01733	1.8g
196	17 mm	10	01726	2.0g
197	17 mm		01726	
198	18 mm		01726	
199	17 mm	11	01726	1.3g
200	17 mm	12	01726	3.1g
201	17 mm	10	01726	1.9g
202	16 mm	5	01726	1.9g
203	16 mm	7	01726	2.2g
204	16 mm	6	01733	1.6g
205	16 mm	10	01769	1.7g
206	15 mm	12	01733	1.4g
207	15 mm	12	01726	2.8g
208	14 mm		01731	0.7g
209	14 mm	11	01736	1.4g
210	17 mm		01726	
211	16 mm		01726	
212	18 mm		01726	
213	16 mm		01727	
214	11 mm		01727	
215	15 mm		01727	
216	15 mm		01727	
217	13 mm		01727	
218	16 mm		01727	
219	16 mm		01727	
220	16 mm		01732	
221	15 mm		01732	
222	15 mm		01732	
223	15 mm		01732	
224	16 mm		01732	
225	13 mm		01732	
226	10 mm	5	01731	0.5g
227	12 mm		01727	
228	13 mm		01727	
229	12 mm		01728	
230	13 mm		01728	
231	12 mm	3	01734	1.8g
232	20 mm		01726	
233	19 mm		01726	
234	18 mm		01726	
235	16 mm		01726	
236	15 mm		01726	
237	15 mm		01726	
238	16 mm		01726	

239	17 mm		01726	
240	17 mm		01726	
241	17 mm		01726	
242	18 mm		01726	
243	14 mm		01727	
244	15 mm		01727	
245	15 mm		01727	
246	15 mm		01727	
247	14 mm		01727	
248	12 mm		01727	
249	14 mm		01727	
250	12 mm		01727	
251	13 mm		01727	
252	11 mm		01728	
253	10 mm		01728	
254	12 mm		01728	
255	10 mm		01728	
256	12 mm		01728	
257	12 mm		01728	
258	11 mm		01728	
259	10 mm		01728	
260	11 mm		01728	
261	15 mm		01731	
262	19 mm		01731	
263	14 mm		01732	
264	15 mm		01732	
265	19 mm		01733	
266	17 mm		01733	
267	17 mm		01733	
268	14 mm		01733	
269	16 mm		01733	
270	18 mm		01733	
271	16 mm		01733	
272	15 mm		01733	
273	18 mm		01733	
274	13 mm		01734	
275	13 mm		01734	
276	15 mm		01734	
277	16 mm		01734	

Pietas

278	16 mm	12	01739	0.9g
279	20 mm	1	01739	2.9g
280	18 mm	6	01739	2.3g
281	18 mm	12	01739	2.0g
282	17 mm	3	01738	2.3g
283	17 mm		01739	
284	17 mm		01739	
285	17 mm		01739	
286	17 mm		01739	
287	17 mm		01739	
288	16 mm		01739	
289	16 mm	6	01739	2.4g
290	16 mm	6	01739	1.2g
291	16 mm	9	01739	1.7g
292	16 mm	12	01739	1.1g
293	15 mm	5	01739	1.2g
294	15 mm	5	01739	1.9g
295	13 mm	5	01739	0.7g
296	12 mm		01739	

297	12 mm		01739	
298	11 mm		01740	
299	9 mm		01740	
300	15 mm		01739	
301	15 mm		01739	
302	14 mm		01739	
303	16 mm		01739	
304	15 mm		01739	
305	13 mm		01739	
306	14 mm		01739	
307	12 mm	4	01739	1.5g
308	11 mm		01740	

Salus Augg

309	19 mm	10	01741	2.3g
310	18 mm		01741	
311	20 mm		01741	
312	17 mm	12	01741	3.1g
313	17 mm	2	01741	3.95g
314	19 mm	4	01741	2.35g
315	18 mm		01742	
316	19 mm		01742	
317	18 mm		01742	
318	19 mm		01742	
319	21 mm	2	01742	2.3g
320	19 mm	7	01744	3.6g
321	17 mm	9	01769	3.3g
322	17 mm	1	01737	2.0g
323	15 mm	6	01737	1.2g
324	19 mm		01741	
325	17 mm		01741	
326	16 mm		01741	
327	17 mm		01741	
328	17 mm	5	01742	2.0g
329	18 mm	5	01742	1.5g
330	17 mm	6	01742	1.1g
331	15 mm	7	01759	2.4g
332	16 mm	5	01759	1.3g
333	15 mm	7	01759	0.9g
334	16 mm	11	01759	4.1g
335	16 mm	7	01741	1.65g
336	16 mm		01742	
337	15 mm	1	01744	2.3g
338	17 mm		01741	
339	16 mm		01741	
340	15 mm	11	01741	1.6g
341	15 mm		01742	
342	13 mm	5	01742	0.95g
343	14 mm	5	01716	1.5g
344	14 mm	1	01741	2.0g
345	15 mm	11	01741	0.95g
346	15 mm		01742	
347	12 mm		01743	
348	10 mm		01743	
349	12 mm		01743	
350	11 mm		01743	
351	14 mm		01743	
352	13 mm		01743	
353	12 mm		01743	
354	10 mm		01743	0.5g

355	12 mm	11	01743	0.8g
356	11 mm	9	01743	0.7g
357	16 mm		01741	
358	15 mm		01741	
359	15 mm		01741	
360	13 mm		01741	
361	15 mm		01741	
362	16 mm		01741	
363	16 mm		01741	
364	16 mm		01741	
365	15 mm		01741	
366	13 mm		01741	
367	17 mm		01741	
368	13 mm		01741	
369	14 mm		01742	
370	14 mm		01742	
371	14 mm		01742	
372	15 mm		01744	
373	15 mm		01744	
374	19 mm	8	01744	2.5g

Spes

375	17 mm	7	01745	1.2g
376	21 mm	11	01745	4.1g
377	20 mm	6	017455	2.0g
378	20 mm	7	01745	2.9g
379	20 mm	2	01745	3.1g
380	20 mm	11	01745	2.5g
381	19 mm	11	01745	1.8g
382	18 mm		01726	
383	20 mm		01741	
384	18 mm	12	01745	1.8g
385	18 mm	12	01745	1.0g
386	17 mm	9	01745	1.55g
387	17 mm	6	01745	1.7g
388	17 mm	6	01745	1.6g
389	17 mm	5	01745	1.6g
390	16 mm		01726	
391	15 mm	8	01745	1.5g
392	16 mm	12	01745	1.7g
393	16 mm	10	01745	1.6g
394	16 mm	12	01745	2.0g
395	16 mm	5	10745	1.2g
396	17 mm		01746	
397	15 mm	8	01745	1.3g
398	15 mm	10	01745	2.2g
399	15 mm		01746	
400	15 mm	5	01745	1.25g
401	14 mm	5	01745	1.4g
402	13 m		01746	
403	12 mm	10	01745	1.3g
404	12 mm		01746	0.6g
405	10 mm	3	01747	0.75g
406	16 mm		01745	
407	15 mm		01745	
408	14 mm		01745	
409	16 mm		01745	
410	17 mm		01745	
411	14 mm		01745	
412	17 mm		01745	

413	17 mm		01745	
414	16 mm		01745	
415	15 mm		01745	
416	15 mm		01745	
417	18 mm		01745	
418	19 mm		01745	
419	16 mm		01745	
420	17 mm		01745	
421	16 mm		01745	
422	17 mm		01745	
423	13 mm		01745	
424	17 mm		01745	
425	17 mm		01745	
426	12 mm		01747	
427	12 mm		01747	
428	11 mm		01747	
429	11 mm		01747	
430	12 mm		01747	
431	12 mm		01747	
432	12 mm		01747	

Victoria/Comes Aug

433	19 mm	7	01750	1.7g
434	18 mm	7	01750	2.7g
435	20 mm		01750	
436	18 mm		01750	
437	17 mm	10	01749	1.9g
438	17 mm	12	01750	1.8g
439	17 mm	1	01751	2.3g
440	16 mm	6	01750	1.4g
441	16 mm	2	01750	0.8g
442	16 mm	1	01750	1.1g
443	16 mm	9	01750	1.5g
444	16 mm	6	01750	2.3g
445	15 mm		01750	
446	15 mm	3	01750	0.9g
447	18 mm		01751	2.2g

Virtus Aug

448	20 mm	12	01754	2.3g
449	20 mm	11	01752	2.3g
450	19 mm	11	01752	2.3g
451	18 mm	4	01752	2.45g
452	18 mm	3	01753	2.45g
453	18 mm	7	01754	2.3g
454	17 mm	5	01752	2.0g
455	16 mm		01754	
456	17 mm		01754	
457	17 mm	1	01762	2.5g
458	16 mm	1	01756	1.9g
459	12 mm		01755	
460	12 mm		01755	
461	12 mm	6	01755	0.9g
462	18 mm		01752	
463	19 mm		01752	
464	17 mm		01754	

Princ Ivvent

465	17 mm	12	01762	1.6g
466	15 mm	12	10756	1.6g

Tetricus II, uncertain rev.

467	20 mm		01762	2.3g
468	18 mm		01769	1.6g

Uncertain female figure

469	14 mm	10	01761	1.5g
470	17 mm	11	01769	2.0g
471	17 mm	12	01769	1.7g
472	16 mm		01759	
473	16 mm	11	01769	1.4g
474	17 mm		01757	
475	14 mm		01757	
476	15 mm		01759	
477	15 mm	7	01764	1.3g
478	15 mm	12	01765	0.9g
479	14 mm	5	01766	1.6g

Uncertain figure reverse

480	16 mm	12	01769	0.7g
481	15 mm	12	01750	1.4g
482	14 mm	7	01751	1.2g
483	17 mm	10	01764	1.3g
484	15 mm	7	01748	1.2g
485	15 mm		01764	
486	15 mm	1	01736	1.4g
487	14 mm		01764	
488	14 mm		01719	
489	14 mm		01719	

Uncertain type, silvered flan

490	15 mm		01704	0.9g

Other types

491	Radiate head both sides	14 mm	6	01703	1.3g

492 -TET- on bronze-plated iron core. (Not available)

493-7 Two fragmentary bronze-plated iron cores and also three small iron discs, with no plating, but probably from similar forgeries.

Uncertain minims

498-585

34x13 mm
21x12 mm
14x11 mm
10x10 mm
6x9 mm
3x8 mm

Unclassifiable

586-845

1x21 mm
3x20 mm
8x19 mm
21x18 mm
45x17 mm
53x16 mm
61x15 mm
41x14 mm

(Remainder not accessible for study).

Silchester, Stratfield Saye coins

A CENTRAL EMPIRE

Gallienus

1	Providentia Aug	17 mm	7	2.2g
2	Providentia Aug	16 mm	12	1.8g

Claudius II

3	Libertas	20 mm	6	2.6g
4	Jupiter	19 mm	6	2.15g
5	DIVO- FIDES M(ilitum)	16 mm	7	3.25g
6		17 mm		

Divo Claudio

Altar type

7		18 mm		1.65g
8		16 mm	2	2.4g
9		16 mm	5	1.6g
10		16 mm	7	1.1g
11		16 mm	1	1.3g
12		16 mm	11	1.2g
13		16 mm	1	1.9g
14		16 mm	3	1.6g
15		15 mm	11	2.4g
16		15 mm	5	1.8g
17		15 mm	1	1.6g
18		15 mm	12	1.4g
19		15 mm		1.2g
20		14 mm	12	1.6g
21		14 mm		0.9g
22		14 mm		1.1g
23		14 mm	6	0.8g
24		13 mm	1	1.4g

Eagle type

25		18 mm	2	2.2g
26		16 mm	10	0.7g
27		16 mm	7	1.9g
28		15 mm	6	1.7g
29		15 mm	6	0.8g

		Funeral Pyre type		
30		12 mm		0.95g
		Uncertain type		
31		16 mm		
		B GALLIC EMPIRE		
		Postumus		
32	Saeculo Frugifero	16 mm		1.95g
		Victorinus		
33		19 mm		
34		15 mm		
		Aequitas Aug		
35		21 mmn	8	2.15g
36		15 mm	11	1.35g
		Invictus		
37		19 mm	1	1.6g
38		16 mm	4	1.4g
39		13 mm	11	0.8g
40		12 mm	4	0.5g
		Providentia Aug		
42		16 mm	6	1.7g
		Virtus Aug		
43		18 mm	7	3.3g
44		20 mm	3	2.6g
45		11 mm	1	0.6g
		Tetricus I and II		
		Fides Militum		
46		14 mm	6	1.3g
		Hilaritas Augg		
47		18 mm	11	2.75g
48		18 mm	1	2.0g
49		17 mm	12	1.55g
50		14 mm	3	0.8g
		Mars Victor		
51		12 mm	6	0.85g

Pax Aug

52	21 mm	12	1.85g
53	21 mm	5	1.35g
54	20 mm	6	2.15g
55	20 mm		2.15g
56	19 mm	7	2.3g
57	19 mm	6	3.25g
58	18 mm	4	2.25g
59	18 mm	2	1.15g
60	16 mm	2	1.8g
61	16 mm	6	2.0g
62	15 mm	12	0.65g
63	15 mm	7	2.0g
64	14 mm	11	1.9g
65	13 mm	5	2.05g
66	12 mm	2	1.5g

Pietas

67	17 mm	6	1.5g
68	14 mm	11	1.4g
69	14 mm	1	1.3g
70	12 mm	2	0.9g
71	12 mm	5	0.35g

Salus Augg

72	20 mm	6	2.8g
73	18 mm	1	1.85g
74	18 mm	5	2.2g
75	17 mm	7	2.3g
76	16 mm	6	1.5g
77	16 mm	12	3.05g
78	5 mm	1	2.8g

Spes

79	18 mm	6	2.15g
80	18 mm	1	3.2g
81	16 mm	4	0.8g
82	16 mm	4	1.55g
83	16 mm	6	1.6g
84	14 mm		1.75g
85	14 mm	2	1.35g
86	13 mm	7	0.7g

Victoria/Comes Aug

87	17 mm	1	3.2g
88	17 mm	1	1.85g
89	17 mm	11	1.8g
90	17 mm	7	1.6g
91	16 mm	7	1.5g
92	15 mm	11	1.2g
93	15 mm	6	2.75g
94	11 mm	12	0.5g

Virtus Augg

95	21 mm	3	3.3g

96		18 mm	12	1.9g
97		17 mm	7	1.5g
98		13 mm	1	2.3g

Tetricus I, uncertain rev.

99		18 mm		
100		16 mm		
101		17 mm		
102		17 mm		
103		14 mm		

Tetricus II, uncertain rev.

104		18 mm		
105		16 mm	6	2.6g
106		16 mm		2.6g

Uncertain female figure

107		14x11 mm		0.8g
108		13 mm		0.9g
109		18 mm	7	2.0g
110		17 mm		1.35g
111		18 mm	6	2.05g
112		19 mm	5	1.45g
113		18 mm		2.15g
114		18 mm	12	1.35g
115		15 mm	12	1.45g
116		13 mm	5	0.75g

Uncertain figure reverse

117		15 mm	11	1.4g
118		15 mm	1	1.2g
119	Pin figure	13 mm	4	0.7g

Uncertain minims

120-149	6x13 mm
	11x12 mm
	9x11 mm
	3x10 mm
	1x9 mm

Unclassifiable

150-203	2x21 mm
	0x20 mm
	4x19 mm
	7x18 mm
	7x17 mm
	7x16 mm
	18x15 mm
	9x14 mm

Silchester, at Ashmolean Museum

B GALLIC EMPIRE

Tetricus I and II

Pax Aug

1		18 mm	6	Tray 5	1.50g
2		15 mm	6	Tray 5	0.40g

Silchester, 1975 excavation

A CENTRAL EMPIRE

Claudius II

1	Jupiter	18 mm	12	17

Diva Claudia

Altar type

2	16 mm	8	37

B GALLIC EMPIRE

Tetricus I and II

Pietas

3	18 mm	2	76

Uncertain female figure

4	15 mm	11	35

Unclassifiable

5	17 mm	27

Silchester, surface finds

			Location
			A CENTRAL EMPIRE
			Claudius II
1	14 mm		
			Diva Claudia
			Altar type
2	16 mm		Ins IV
3	15 mm	1	Ins IV

4	15 mm	2	Ins VII
5	15 mm	2	

Eagle type

6	17 mm	10	Ins I

B GALLIC EMPIRE

Victorinus

Invictus

7	21 mm	2	Ins IV
8	17 mm	12	Ins IV

Tetricus I and II

Fides Militum

9	14 mm	5	

Hilaritas Augg

10	21 mm	11	Ins IV
11	17 mm	5	Ins IV
12	16 mm	12	Ins VI

Laetitia

14	16 mm	2	Ins IV

Pax Aug

15	16 mm	6	Ins I
16	16 mm	5	Ins IV
17	14 mm	8	Ins IV
18	17 mm	11	Ins IV
19	16 mm		Ins XXXIV
20	14 mm	7	Ins VI
21	14 mm	3	

Pietas

22	21 mm	1	Ins XXVII

Salus Augg

23	17 mm	9	Ins I
24	17 mm	12	Ins IV
25	15 mm	2	Ins IV

Spes

26	18 mm	11	Ins IV
27	16 mm	2	Ins I
28	16 mm	3	Ins IV
29	15 mm	1	Ins IV
30	14 mm	4	

Victoria Aug

31	16 mm	4	Ins I	

Tetricus I, uncertain rev.

32	15 mm		Ins VII	
33	15 mm	9		
34	14 mm		Ins IV	

Uncertain female figure

35	17 mm	1	Ins XXXIV	
36	16 mm	11	Ins I	

Design reverse

37	12 mm		Ins IV	

Uncertain minims

38-47	2x13 mm
	2x12 mm
	1x11 mm
	2x10 mm
	2x9 mm
	1x7 mm

Unclassifiable

48-56	1x20 mm
	1x18 mm
	2x17 mm
	1x16 mm
	1x15 mm
	3x14 mm

Wickham Bushes

A CENTRAL EMPIRE

Divo Claudio

Altar type

1	16 mm	7	WB37	1.4g

B GALLIC EMPIRE

Tetricus I and II

Pax Aug

2	15 mm	7	WB34	1.45g
3	16 mm	5	WB31B2	1.65g

Virtus Augg

4	17 mm		WB31B1	1.45g

Uncertain female figure rev.

5		17 mm	12	WB31A	1.5g
6		15 mm	11	WB30	1.3g

Winchester

A CENTRAL EMPIRE

Claudius II

1	(Iovi Sta)TORI	20 mm	6	BS1459	Ex
2	(Aetern)IT AVG	19 mm	7	ACN86	Ex
3		17 mm		BS7292	Ex
4	Fem.fig.l.	13 mm	3	WP1103	Ex

Divo Claudio

Altar type

5		17 mm	5	BS7138	Ex
6		17 mm		WP4445	Ex
7		17x14 mm		BS7276	Ex
8		17 mm	12	115	Mus
9		16 mm	7	138	Mus
10		15 mm		ACS199	Ex
11		15 mm	6	C2323	Mus
12		14 mm		WP3647	Ex
13		13 mm		146	Mus
14		12 mm		164	Ex
15		12 mm	1	C1679	Mus
16		11 mm		36	Mus
17		18 mm	12	Priv.coll.	1.63g
18		15 mm	7	Priv.coll.	1.60g

Eagle type

19		18 mm	3	BS7737	Ex
20		16 mm	10	C2400	Mus

B GALLIC EMPIRE

Postumus

21	Fem.fig.stg.l.	19 mm	6	BS4195	Ex
22	Oriens	16 mm	3	BS5185	Ex

Victorinus

Aequitas Aug

23		14 mm	10	TS86	Ex

Invictus

24		15 mm	12	TS67	Ex
25		13 mm	11	FP80	Ex
26		18 mm	6	BS7536	Ex

27		18 mm		37	Mus
28		17 mm	10	BS7287	Ex
29		17 mm		WP3405	Ex
30		17 mm		CACP251	Ex
31		16 mm	12	C4909	Mus
32		15 mm	12	BS5814	Ex
33		15 mm	5	BS7599	Ex
34		15 mm	7	WP4036	Ex
35		14 mm	4		Mus
36		13 mm	11	TS124	Ex
37		13 mm	12	FRTS84	Ex
38		12 mm	12	TS123	Ex
39		11 mm	9	WP3380	Ex
40		11 mm		101	Mus
41		10 mm	10	C4902	Mus
42		8 mm			Mus
		Invictus derivative			
43		15 mm	5	CG1422	Ex
		Pax Aug			
44		16 mm	12	C2346	Mus
		Virtus Aug			
45		16 mm	3	BS6208	Ex
46		13 mm	5	BS7087	Ex
		Tetricus I and II			
		Fides Militum			
47		16 mm	2	CACP136	Ex
48		19 mm	12	WP852	Ex
49		18 mm	6	CACP515	Ex
50		17 mm	3	CACP137	Ex
51		15 mm	5	BS6956	Ex
52		15 mm	4	CACP596	Ex
		Hilaritas Augg			
53		16 mm	5	CACP271	Ex
54		18 mm	7	SG18	Ex
		Laetitia			
55	SPES AV- wrong leg	16 mm	5	179	Mus
56		18 mm	12	BS7118	Ex
57		18 mm	12	WP3651	Ex
58		17 mm	7	WP4043	Ex
59		17 mm	6	SC35	Ex
60		16 mm	6	BS7532	Ex
		Pax Aug			
61		17 mm	7	WP3123	Ex
62		16 mm	11	CG1390	Ex
63		14 mm	1	Bi86	Ex
64		14 mm	10	WP1339	Ex

65	14 mm	1	OA128	Ex	
66	19 mm	3	BS6780	Ex	
67	18 mm	7	BS3636	Ex	
68	18 mm	6	BX6820	Ex	
69	18 mm	11	ACS430	Ex	
70	17 mm		BS8053	Ex	
71	17 mm	9	BS6716	Ex	
72	17 mm	5	BS6486	Ex	
73	17 mm	12	BS7403	Ex	
74	17 mm	9	WP3778	Ex	
75	17 mm	2	CG287	Ex	
76	17 mm	3	CACP366	Ex	
77	17 mm	2	127	Mus	
78	16 mm	6	BS6247	Ex	
79	16 mm	11	BS7778	Ex	
80	16 mm	4	BS7201	Ex	
81	16 mm	6	FP85	Ex	
82	16 mm		CG365	Ex	
83	15 mm	12	ACS507	Ex	
84	15 mm	4	CY49	Ex	
85	15 mm	5	CACP570	Ex	
86	14 mm	6	FP75	Ex	
87	14 mm		FP74	Ex	
88	14 mm	9	CACP421	Ex	
89	14 mm	6	BS7976	Ex	
90	14 mm	11	92	Mus	
91	13 mm		CG1469	Ex	
92	13 mm	7	CACP431	Ex	
93	12 mm	12	BS5987	Ex	
94	12 mm	3	BS7776	Ex	
95	12 mm	10	C4901	Mus	
96	10 mm	12	C4910	Mus	
97	9 mm		C2340	Mus	
98	17 mm	7	Priv.coll.		3.59g
99	17 mm	4	WP3801	Ex	

Pietas

100	15 mm	12	CG1457	Ex	
101	13 mm	7	FP82	Ex	
102	13 mm	3	CG1461	Ex	
103	13 mm	11	BS7887	Ex	
104	13 mm	6	SG30	Ex	
105	20x15 mm	1	C4900	Mus	
106	16 mm	1	CACP317	Ex	
107	16 mm	4	C1775	Mus	
108	15 mm		WP1379	Ex	
109	14x9 mm	2	TS79	Ex	
110	13 mm	4	WP3407	Ex	
111	13 mm	2	34	Mus	
112	10 mm	12/6	ACS577	Ex	

Salus Augg

113	16 mm	1	BS4838	Ex	
114	20 mm	2	ACN11	Ex	
115	19 mm	8	WP1273	Ex	
116	19 mm	7	77	Mus	
117	18 mm	6	BS5886	Ex	
118	18 mm	11	ACN144	Ex	
119	18 mm	6	CG1350	Ex	

120		18 mm	12	C4899	Mus
121		17 mm	5	BS1012	Ex
122		17 mm	5	BS7680	Ex
123		17 mm	2	TS128	Ex
124		16 mm	9	BS4311	Ex
125		15 mm	2	CG1459	Ex
126		13 mm	2	C4907	Mus
127		12 mm	11	C4908	Mus
128		11 mm	5	WP3605	Ex

Spes

129		19 mm	9	CACP445	Ex
130		17 mm	5	WP3249	Ex
131		17 mm	12	BS5876	Ex
132		15 mm	6	WP3743	Ex
133		15 mm	6	Bi89	Ex
134		21 mm	12	BS7436	Ex
135		18 mm	6	BS7803	Ex
136		18 mm	2	WP3916	Ex
137		18 mm	11	TS64	Ex
138		17 mm+	6	BS7780	Ex
139	Reduced to pin fig.	17 mm	10	BS8047	Ex
140		17 mm	5	BS5648	Ex
141		17 mm	1	TS23	Ex
142		16 mm	7	BS5449	Ex
143		16 mm	12	WP3654	Ex
144		16 mm		CACP190	Ex
145		15 mm	1	OA87	Ex
146		14 mm	11	WP4385	Ex
147		14 mm		WP3785	Ex
148		14 mm		ACS452	Ex
149		14 mm	8	CG1321	Ex
150		14 mm	6	C4889	Mus
151		12 mm	2	ACS668	Ex

Victoria/Comes Aug

152		16 mm	6	BS7681	Ex

Virtus Augg

153		15 mm	7	CACP263	Ex
154		18 mm	10	WP4075	Ex
155		17 mm	8	TS69	Ex
156		17 mm		C4898	Mus
157		16 mm	6	CACP427	Ex

Tetricus I, uncertain rev.

158		18 mm		BS5122	Ex
159		18 mm	5	BS5545	Ex
160		18 mm	1	BS6516	Ex
161		17 mm	5	BS4668	Ex
162		17 mm		BS6990	Ex
163		17 mm	11	WP3688	Ex
164		17 mm	1	WP1891	Ex
165		17 mm		BSSC347	Ex
166		17 mm		CACP633	Ex
167		15 mm	9	BS7682	Ex
168		15 mm	4	ACS210	Ex

169		15 mm	7	CACP423	Ex
170		14 mm		BSSC354	Ex
171		13 mm		CG1485	Ex

Tetricus II, uncertain rev.

172		15 mm		TS77	Ex

Uncertain female figure

173		15 mm	7	CG1440	Ex
174		16 mm		CACP66	Ex
175		17 mm	3	CACP424	Ex
176		16 mm	12	BS5586	Ex
177		15 mm	7	BS652	Ex
178		15 mm	6	BS8051	Ex
179		14 mm		BS7748	Ex
180		13 mm		CG1975	Ex
181		13 mm	12	CACP426	Ex

Uncertain figure reverse

182	Tall, thin fig.	17 mm	7	BS7182	Ex
183		16 mm		BS3835	Ex
184	Square flan	16 mm		CACP420	Ex
185		15 mm	3	WP4109	Ex
186		15 mm		WP3159	Ex
187	Pin fig.	15 mm	12	CG1476	Ex
188		15 mm	5	CACP437	Ex
189	Male fig., staff l.	14 mm	6	BS4397	Ex
190		14 mm	6	WP3638	Ex
191	Pin fig., staff r.	14 mm	11	CACP419	Ex
192		14 mm	3	CACP147	Ex
193		14 mm	9	CACP147	Ex

Design reverse

194	Square flan. Temple?	18x16 mm	12	BS6360	Ex
195		17 mm		CACP451	Ex
196	Dotted border	15 mm		BS6951	Ex
197		15 mm		BS5899	Ex
198	Ewer deriv.?	14 mm		CY195	Ex
199	Linear design	14 mm		C2401	Mus
200	V.stylised female fig.	13 mm	11	CG1490	Ex
201	Pronounced border	13 mm		CG1487	Ex

Uncertain minims

202-298	22x13 mm
	25x12 mm
	17x11 mm
	13x10 mm
	9x9 mm
	7x8 mm
	3x7 mm

Unclassifiable

299-346	1x19 mm

6x18 mm
7x17 mm
14x16 mm
12x15 mm
7x14 mm

Site finds from the counties of Oxfordshire, Buckinghamshire and Hertfordshire, described in chapter 8

Oxfordshire

Alchester (ASHM)	5
Asthall (ASHM)	34
Bicester (ASHM)	5
Bloxham (ASHM)	1
Chipping Norton (ASHM)	5
Ditchley (ASHM)	3
Dorchester (7 at ASHM, 1 at RM, 6 from Professor Frere)	14
Frilford (ASHM)	13
Headington (ASHM)	9
Hensington (ASHM)	7
Kidlington (ASHM)	1
King's Sutton (ASHM)	5
Long Wittenham (ASHM)	3
Lowbury Hill (RUn)	45
Oxford (ASHM)	1
Shakenoak (ASHM)	87
Shotover Brickfield (ASHM)	7
Summertown (ASHM)	1
Wantage (NEWBM)	1
Wilcote House (ASHM)	2
Woodeaton (177 ASHM)	177
Wootton (ASHM)	1
Unprovenanced site (WOODM)	41

	468

Alchester

1	Gallienus Animal	16 mm	3	Tray 15	1.87g
2	Divo Claudio eagle	16 mm	3	Tray 15	1.76g
3	Tetricus I Pax Aug	16 mm	11	Tray 13	2.12g
4	Illeg. Pin figure	13 mm	6	Tray 14	2.36g
5		12 mm	2	Tray 14	0.50g

Asthall

A CENTRAL EMPIRE

Claudius II

1	Fem.fig.l.	10 mm	12	

Divo Claudio

2	Altar	15 mm	6	1.20g
3	Double-struck obv. altar	13 mm	-	0.57g

B GALLIC EMPIRE

Postumus

4	Fem.fig.l.	15 mm	9	1.91g

Victorinus

5	Invictus	13 mm	3	
6	Invictus	12 mm	-	

Tetricus I and II

7	Tetricus I Fides Militum	14 mm	2	1.20g
8	Tetricus I Pax Aug	12 mm	-	0.38g
9	Tetricus I Pax Aug	9 mm	11	0.42g
10	Tetricus II Pietas	15 mm	-	0.89g
11	Tetricus II Pietas	13 mm	9	0.73g
12	Tetricus I Salus Augg	15 mm	9	1.79g
13	Tetricus I Victoria Aug	8 mm	4	0.34g
14	Tetricus I Victoria Aug	14 mm	3	1.26g
15	Tetricus I Virtus Augg	12 mm	10	0.47g
16	Tetricus I Virtus Augg	9 mm		

Pin figure

17		13 mm	-	0.92g

Uncertain minims

18-25		2x13 mm		

3x12 mm
1x11 mm
1x10 mm
1x8 mm

Unclassifiable

26-34 2x18 mm
2x17 mm
2x16 mm
1x15 mm
2x14 mm

Bicester area

1	Postumus Fem.fig.	16 mm	12	1.20g
2	Tetricus II Pietas	15 mm	3	1.26g
3	Tet.II, left-facing Pietas	14 mm	11	1.45g
4		15 mm	-	0.88g
5		14 mm	7	0.88g

Bloxham

1		15 mm	-	0.71g

Chipping Norton

1	Divo Claudio altar	16 mm	7	1.79g
2	Divo Claudio altar	10 mm	2	0.74g
3	Victorinus Invictus	14 mm	12	1.60g
4		18 mm	-	1.98g
5	Fem.fig.r.	13 mm	8	1.17g

Ditchley

1	Spes	12 mm	-	0.27g
2	Tetricus II	8 mm	12	0.38g
3		14 mm	-	0.62g

Dorchester

1	Divo Claudio eagle	18 mm	12	61	(Frere)	
2	Tetricus I Fortuna	16 mm	11	6	"	
3	Tetricus I Laetitia	16 mm	6	-	ASHM	1.82g
4	Tetricus I	18 mm	6	38	(Frere)	
5	Tetricus I	16 mm	12	-	ASHM	1.20g
6	Tetricus I Pin fig.	13 mm	3	21	(Frere)	
7	Tetricus II	15 mm	-	30	(Frere)	
8		18 mm	11	-	(ASHM)	1.37g
9		15 mm	5	-	(ASHM)	1.70g

10	14 mm	4	–	(ASHM)	1.51g
11	15 mm	–		(RM)	
12	13 mm	1	2	(Frere)	
13	11 mm	–	–	(ASHM)	0.65g
14	9 mm	–	–	(ASHM)	1.90g

Frilford

A CENTRAL EMPIRE

Gallienus

1	20 mm	7	1.93g

Claudius II

2	16 mm	12	1.96g

B GALLIC EMPIRE

Tetricus I and II

3	Tetricus I Laetitia Aug	18 mm	12	2.96g
4	Laetitia	11 mm	11	0.55g
5	Pietas	13 mm	4	1.60g
6	Tetricus I Salus Augg	12 mm	–	0.36g
7	Virtus Augg	18 mm	12	0.83g
8	Tetricus II	15 mm	1	1.60g
9	Tetricus II	15 mm	6	2.15g

Uncertain minims

10	12 mm	3	0.40g
11	9 mm	–	0.48g

Unclassifiable

12	17 mm	6	0.94g
13	15 mm	–	0.53g

Headington

Tetricus I and II

1	Spes	17 mm	3	1.24g
2	Tetricus II	15 mm	1	1.97g

Design reverse

3	Illeg.	14 mm	–	0.73g

Unclassifiable

4	19 mm	11	2.20g
5	17 mm	3	1.91g
6	16 mm	–	1.50g

7		16 mm	–	1.35g
8		15 mm	–	0.64g
9		15 mm	–	0.72g

Hensington

A CENTRAL EMPIRE

Gallienus

1	Stag, right	16 mm	11	2.26g

Claudius II

2		18 mm	–	2.0g

B GALLIC EMPIRE

Tetricus I, uncertain rev.

3		16 mm	5	1.39g
4	Female fig, l.	15 mm	1	1.87g

Tetricus II, uncertain rev.

5		18 mm	2	1.34g

Unclassifiable

6		18 mm	6	1.10g
7		15 mm	–	1.29g

Kidlington

1	Tetricus I female fig.	17 mm	9	2.60g

King's Sutton

1	Claudius II female fig.	13 mm	11	0.54g
2	Tetricus II Pietas	13 mm	4	0.79g
3	Tetricus I Salus Augg	15 mm	12	1.11g
4	Tetricus I Virtus Augg	16 mm	5	0.88g
5	Tetricus I female fig.	15 mm	7	0.96g

Long Wittenham

1	Gallienus Jupiter stg.r.	15 mm	5	1.71g
2	Victorinus? Aequitas Aug	18 mm	11	1.90g
3	Illeg.	18 mm	5	1.89g

Lowbury Hill

A CENTRAL EMPIRE

Gallienus

1	Dianae Cons Aug	19 mm	7	78

Claudius II

2	Fem.fig.l.	16 mm	12	97

Diva Claudio

3	Altar	16 mm	7	85A
4	Altar	14 mm	2	85A
5	Altar			
6	Eagle	15 mm	12	86
7	Eagle			
8	Eagle			

B GALLIC EMPIRE

Victorinus

9	Invictus	14 mm		85C
10	Invictus	12 mm		2
11	Pax Aug	18 mm	4	108
12	Salus Aug	17 mm	4	110
13	Illeg.			

Tetricus I and II

Hilaritas

14		19 mm	11	119

Laetitia

15		16 mm	6	20

Mars Victor

16		15 mm	10	13

Pax Aug

17		20 mm	6	6
18		18 mm	5	9
19		15 mm	4	8

Pietas

20		11 mm	1	21

Salus Augg

21		17 mm	5	10
22		11 mm		22

Spes

23		19 mm	5	14
24	Spes Augg	16 mm	6	15
25				
26				

Virtus Augg

27		20 mm	12	11
28		15 mm	6	3

Tetricus I, uncertain rev.

29	Fem. fig.	16 mm	2
30	Fem. fig. l.	15 mm	7
31	Fem. fig. l.	14 mm	12
32		14 mm	

Design reverse

33	Y-shape design	14 mm
34	Dashes	11 mm

Uncertain minims

35	Prominent border	12 mm
36		12 mm
37		9 mm
38		9 mm
39		9 mm

Unclassifiable

40-45

Oxford, Davenant Road

1	Claudius II Virtus Aug	18 mm	6	1.49g

Shakenoak

A CENTRAL EMPIRE

Gallienus

1	Male fig.r.	16 mm	1	29(140)	1.84g
2	Animal	16 mm	3	322	1.92g

Claudius II

3	Male fig.l.	15 mm	9	664	1.17g
4		15 mm	1	183	1.39g

Divo Claudio

Altar type

5		16 mm	6	831	0.44g
6		16 mm	1	30(38)	1.71g
7		15 mm	6	13(147)	1.53g
8		13 mm	3	356	1.16g
9		9 mm		254	0.37g

B GALLIC EMPIRE

Victorinus

10	Female fig.l.	15 mm		759	1.4g

Invictus

11		19 mm	4		1.43g
12		16 mm	6	854	1.77g
13		12 mm	12	262	0.44g

Tetricus I and II

Hilaritas Augg

14		14 mm	10	335(14)	0.85g

Laetitia

15		16 mm	6	726	1.75g
16		15 mm	12	613	0.67g
17		15 mm	2	187	1.23g
18		15 mm	1	333	0.59g

Pax Aug

19		19 mm	5		2.50g
20		19 mm	11	643	1.88g

Pietas

21		18 mm		720	1.42g
22		17 mm	5	851	0.72g

Salus Augg

23		11 mm		330(12)	0.71g

Spes

24		16 mm		606	1.34g
25		12 mm		324(12)	0.37g

Victoria/Comes Aug

26		15 mm	10	305(15)	0.87g

Tetricus I, uncertain rev.

27	Lead disc/coin. Almost a brockage.	19 mm		230	3.23g
28		19 mm	11	266/7	2.41g
29		17 mm	11	719	1.08g
30		17 mm		302	0.69g
31		16 mm		31 155	2.42g
32	Fragmented flan	c14 mm		296	0.51g
33		14 mm	11	225	0.92g

Tetricus II, uncertain rev.

34		17 mm	12	287	2.75g
35		14 mm		790	0.61g

Uncertain female fig. rev.

36		16 mm		32(102)	1.02g
37		12 mm	2	241(12)	0.63g

Pin figure

38		15 mm	5	36(39)	1.80g
39		15 mm	9	305(15)	1.30g

Design reverse type

40	Corroded-poss.not a barb.rad.	17 mm		794	1.44g
41		14 mm		215	0.99g
42	"Lyre shape"	10 mm		645	0.53g

Uncertain minims

43-71	12x13 mm
	4x12 mm
	3x11 mm
	8x10 mm
	2x9 mm

Unclassifiable

72-87	1x20 mm
	2x18 mm
	2x17 mm
	2x16 mm

6x15 mm
3x14 mm

Shotover, Boffin's Brickyard, Oxford

1	Divo Claudio altar	15 mm	–		2.37g
2	Postumus	15 mm	–		2.65g
3	Tetricus I Laetitia	15 mm	2		1.30g
4	Tetricus I Laetitia	15 mm	7		0.99g
5	Tetricus I Pietas	14 mm	4		1.64g
6	Tetricus I	19 mm	12		3.31g
7	Tetricus I	18 mm	4		2.90g

Summertown, Oxford

1		14 mm	9		1.70g

Wantage

1	Tetricus I Pax Aug	17 mm	11	164	

Wilcote House

1	Tetricus I Spes	12 mm	5		0.95g
2		10 mm	–		0.41g

Woodeaton

A CENTRAL EMPIRE

Gallienus

1	(Securitas)PERPET(ua)	19 mm	7		2.5g
2	Fides Militum	18 mm	12		1.95g
3		18 mm	2		1.82g
4	Virtus	17 mm	4		2.0g

Claudius II

5	(Vi)RTU(s Aug)	23 mm	5		2.7g
6	LIB–	17 mm	5		2.28g
7		16 mm			1.1g
8		11 mm	3		0.86g

Divo Claudio

a Altar type

9		18 mm			2.83g
10		16 mm	2		2.24g
11		16 mm			1.35g

12		15 mm	1		2.4g

b Eagle type

13		17 mm	3		1.81g
14		17 mm	12		1.76g
15		17 mm	8		1.63g
16		17 mm	12		1.55g
17		15 mm	1		1.49g
18		14 mm	12		1.23g

Aurelian

19	XXI	16 mm	1		3.82g

B GALLIC EMPIRE

Postumus

20		17 mm	6		2.13g

Victorinus

21		20 mm			1.22g
22		19 mm	10		2.37g
23		18 mm	6		1.37g
24		17 mm	12		1.58g
25		13 mm			0.89g

Aequitas Aug

26		16 mm	12		2.51g

Invictus

27		18 mm	11		1.97g
28		17 mm	8		1.33g
29		17 mm		20	1.22g
30		12 mm	11	13	0.69g

Pax Aug

31		17 mm	6		1.68g
32		16 mm	11	8	1.9g
33		14 mm	8		1.74g

Providentia Aug

34		19 mm	10		2.37g
35		16 mm	6		1.38g
36		16 mm	11		2.20g
37		15 mm	6	21	0.63g
38		15 mm	12	4	1.70g
39		14 mm			0.83g
40		13 mm	8		0.79g

Virtus Aug

41		20 mm	12		1.64g
42		17 mm	5		1.9g

43	17 mm	12		1.91g
44	17 mm	10		2.1g

Tetricus I and II

Fides Militum

45	21 mm			2.9g
46	18 mm	5		1.0g
47	18 mm	7		1.99g
48	17 mm	6		1.95g
49	16 mm	7		1.50g

Hilaritas

50	19 mm	11		1.33g
51	16 mm	1		1.43g
52	12 mm	12		0.79g
53	10 mm	9		0.62g
54	20 mm	10		3.67g
55	16 mm	5		1.77g
56	14 mm	3		1.25g

Laetitia

57	17 mm	6	3	2.72g
58	13 mm	5	25	1.19g

Mars Victor

59	15 mm	4	9	1.11g

Pax Aug

60	20 mm	1		3.34g
61	19 mm	7		1.97g
62	18 mm	12		1.92g
63	18 mm	12	2	1.35g
64	17 mm	10	17	1.92g
65	17 mm	8	15	1.15g
66	17 mm	3	5	2.15g
67	17 mm	12		2.52g
68	13 mm	7		0.67g

Pietas

69	18 mm	11		1.89g
70	17 mm	6		2.1g
71	15 mm			2.42g
72	15 mm	11		1.55g
73	14 mm			2.6g
74	14 mm	7		1.12g
75	14 mm	2		0.80g
76	11 mm	6		0.64g
77	11 mm	3		0.74g
78	15 mm	1		0.88g

Princ Ivvent

79	18 mm	12		2.12g

Salus Augg

80		19 mm	12	28	2.41g
81		19 mm	5		1.59g
82		16 mm	11		1.64g
83		16 mm	8		1.54g
84		16 mm	10	18	2.58g
85		16 mm	12		1.66g
86		14 mm	8		1.43g
87		14 mm	10		1.44g
88		15 mm	10		2.65g

Spes

89		20 mm	6		2.12g
90	Square flan	18 mm			2.3g
91		18 mm	6		1.78g
92		18 mm	6		2.4g
93		18 mm	7	12	2.52g
94		17 mm	9		3.21g
95		16 mm	11		1.64g
96		16 mm		BRITM	
97		18 mm	11		3.1g

Victoria/Comes Aug

98		17 mm	11		1.16g
99		13 mm	12		1.4g

Virtus Augg

100		17 mm	1		3.68g
101		16 mm	6		1.94g
102		11 mm	10		0.44g

Tetricus I, uncertain rev.

103		19 mm			0.99g
104		19 mm	7		1.58g
105		18 mm			1.39g
106		18 mm	7		1.73g
107		17 mm	12		1.19g
108		16 mm	6		0.83g
109		14 mm	9		1.18g
110		14 mm			0.99g
111		14 mm			1.74g

Tetricus II, uncertain rev.

112		11 mm	1		0.66g
113		13 mm	1	22	0.80g
114		15 mm			1.59g

Uncertain figure rev.

115	Linear fig.	17 mm			1.39g

Uncertain minims

A	Group				
116		14 mm			1.35g
117		14 mm	7	24	2.10g
118		14 mm		19	1.45g
119		13 mm	7	23	1.80g
120		13 mm	10		1.36g
121		13 mm	2		0.65g

B Others

122-155

4x13 mm
6x12 mm
4x11 mm
2x10 mm
2x9 mm
1x6 mm

(Data on 15 coins not available)

Unclassifiable

156-177

1x23 mm
1x20 mm
1x19 mm
3x17 mm
3x16 mm
2x15 mm

(Data on 11 coins not available)

Wootton, Oxford

1	Design rev.	11 mm	-		0.86g

Unprovenanced Oxfordshire site

(Originally thought to be Somerton)

A CENTRAL EMPIRE

Gallienus

1	Dianae Cons Aug	17 mm	8	33	

Claudius II

2		13 mm	12	18	

Divo Claudio

3	Altar	15 mm	11	17	

Aurelian

4	Oriens Aug	13 mm	-	67	

B GALLIC EMPIRE

Victorinus

5	Providentia Aug	16 mm	10	22
6	Victoria Aug	14 mm	1	23
7		17 mm	–	31

Tetricus I and II

Pax Aug

8		21x16 mm	9	63
9		12 mm	10	76

Pietas

10		16 mm	12	86
11		12 mm	2	38
12		11 mm	1	77

Salus Augg

13		14 mm	3	37

Spes

14		16 mm	11	36
15		15 mm	12	35
16		17 mm	12	42

Virtus Augg

17		17 mm	5	32

Tetricus I, uncertain rev.

18	Fem. fig. l.	20x17 mm	11	34
19		18 mm	–	29
20		13 mm	12	70
21		12 mm	7	73

Tetricus II, uncertain rev.

22	Facing l.	11 mm	–	39

Uncertain minims

23-7	5x12 mm
28-30	3x11 mm
31	1x10 mm
32-4	3x9 mm
35	1x7 mm

Unclassifiable

36-41	3x16 mm
	1x15 mm
	2x14 mm

Buckinghamshire

Aylesbury, Oxford Road (AYLM)	1
Aylesbury, Stocklake (AYLM)	1
Hambledon villa (AYLM)	40
Haversham (AYLM)	1
High Wycombe (AYLM)	1
Kingswood, Ham Green (AYLM)	3
Latimer villa (AYLM)	1
Magiovinium (3 at AYLM, 4 from David Neal's excavations)	7
Mentmore (AYLM)	1
Stone (ASHM)	1
Whaddon Chase (AYLM)	1
	--
	58

Aylesbury, Oxford Road

1	Tetricus I Hilaritas Augg	16 mm	4	

Aylesbury, Stocklake

1		14 mm	10	

Hambleden Villa

A CENTRAL EMPIRE

Gallienus

1		20 mm	1	138

Claudius II

2		17 mm	12	
3	Pax Aug	17 mm	11	120
4	Salus Aug	16 mm	3	

Divo Claudio

5	Altar	19 mm	12	152
6	Altar	17 mm	5	151
7	Altar	17 mm	5	150
8	Eagle	21 mm	8	154

B GALLIC EMPIRE

Victorinus

Invictus

9		18 mm	11	93
10		17 mm	10	355
11		15 mm	3	356
12		18 mm	8	359

Virtus Aug

13		17 mm	-	325

Tetricus I and II

Pax Aug

14		19 mm	-	322
15		13 mm	4	324

Pietas

16		18 mm	7	124
17		16 mm	6	123
18		18 mm	11	363

19	19 mm	7	109

Salus Augg

20	19 mm	4	110

Spes

21	18 mm	5	346
22	16 mm	10	113

Tetricus I, uncertain rev.

23	19 mm	10	
24	18 mm	6	337
25	15 mm	6	128
26	14 mm	8	341

Pin figure

27	17 mm	11	
28	16 mm	2	
29	13 mm	2	354

Design reverse

30	17 mm	-	362
31	15 mm	2	332
32	11 mm	12	327

Uncertain minims

33-4	3x13 mm 4x12 mm 1x7 mm		

Haversham

1	Divo Claudio altar	15 mm	2	

High Wycombe

1	Tetricus I head Pietas	18 mm	10	

Kingswood, Ham Green

1	Gallienus?	18 mm	12	
2		19 mm	-	
3	Claudius II	15 mm	-	

Latimer Villa

1	Tetricus II Spes	16 mm	12

Magiovinium

1	Gallienus	18 mm	5
2	Divo Claudio altar	17 mm	7
3	Victorinus Proventia Aug	20 mm	11
4	Tetricus I Laetitia	14 mm	7
5	Tetricus I Pax Aug	17 mm	7
6	" "	17 mm	7
7	" "	16 mm	4

Mentmore

1	Tetricus I Mars Victor	16 mm	2

Stone

1	Tetricus II Spes	16 mm	12	2.70g

Whaddon Chase

1	Victorinus Providentia Aug	20 mm	6

Hertfordshire

Boxmoor Villa (David Neal's excavations)	23
Near Cheshunt (BRITM)	1
Gorhambury villa (David Neal's excavations)	64
Northchurch villa (David Neal's excavations)	6
Verulamium (637 at VERM, 130 from Professor Frere)	767
Watford (Personal collection)	1

	862

Boxmoor Villa

A CENTRAL EMPIRE

Claudius II

1	Hercules	18x15 mm	1	110
2		11 mm	-	74

B GALLIC EMPIRE

Victorinus

3	Pax Aug	14 mm	6	376
4		12 mm	-	21

Tetricus I and II

Pax Aug

5		17 mm	3	61
6		17 mm	-	108
7		13 mm	11	364

Pietas

8		15 mm	7	185
9		15 mm	-	115
10		11 mm	9	70
11		11 mm	-	279

Salus Augg

12		16 mm	-	158

Spes

13		16 mm	10	289

Tetricus II, uncertain rev.

14		15 mm	12	334

Uncertain minims

15-20	1x13 mm
	2x12 mm
	2x10 mm
	1x9 mm

Unclassifiable

21-3	1x17 mm
	2x15 mm

Near Cheshunt

1	Tetricus I Invictus - wrong rev.	20 mm	6	2.13g

Gorhambury Villa

A CENTRAL EMPIRE

Claudius II

1		17 mm	–	813948
2		14 mm	9	813848

Divo Claudio

3	Altar	21 mm	7	813981
4	Altar	18 mm	6	813847
5	Altar	16 mm	11	813917
6	Altar	15 mm	–	813894
7	Altar	10 mm	–	813760
8	Eagle	17 mm	6	813723
9	Eagle	18 mm	1	813750
10	Eagle	18 mm	7	813871
11	Eagle	15 mm	–	813964

B GALLIC EMPIRE

Victorinus

Invictus

12		19 mm	6	813960
13		15 mm	10	813968
14		15 mm	10	813814
15		13 mm	5	813839
16		12 mm	7	813975
17		11 mm	7	813976
18		13 mm	1	813937

Pax Aug

19		15 mm	10	813969
20		14 mm	11	813965
21		19 mm	6	813958

Virtus Aug

22		18 mm	12	813733

Tetricus I and II

Hilaritas Augg

23		17 mm	12	813936

Laetitia

24		13 mm	1	813811

Pax Aug

25		19 mm	6	813952
26		17 mm	–	813856
27		15 mm	11	813867

Pietas

28	18 mm	11	813757
29	17 mm	6	813735
30	11 mm	11	813940
31	13 mm	-	813748
32	17 mm	12	813906
33	14 mm	11	813966

Salus Augg

34	17 mm	4	813946
35	18 mm	6	813851
36	15 mm	9	813780

Spes

37	17 mm	11	813953
38	16 mm	4	813963
39	16 mm	12	813962
40	17 mm	1	813923
41	16 mm	12	813844
42	13 mm	8	813755
43	13 mm	7	813919
44	14 mm	10	813940

Victoria Aug

45	14 mm	1	813916
46	14 mm	8	813751

Virtus Augg

47	16 mm	1	813891

Tetricus I, uncertain rev.

48	15 mm	-	813931

Uncertain minims

49-5	1x12 mm
	2x11 mm
	2x10 mm
	1x9 mm
	1x8 mm

Unclassifiable

56-64	1x19 mm
	1x17 mm
	3x16 mm
	2x15 mm
	2x14 mm

Northchurch Villa

1	Victorinus Providentia Aug	14 mm	12

2	Victorinus Providentia Aug	13 mm	6	H27
3	Tetricus II Pietas	14 mm	8	H26
4	Tetricus I Salus Augg	15 mm	7	
5	Tetricus II Spes	18 mm	6	
6		12 mm	-	

Verulamium Museum

A CENTRAL EMPIRE

Gallienus

1	16 mm	-	6392
2	14 mm	6	14
3	14 mm	-	328

Claudius II

4	Victoria Aug	15 mm	11	1778
5	Aequitas Aug	14 mm	10	1557
6		7 mm	9	5924

Divo Claudio, altar

7	16 mm	-	1606a
8	16 mm	5	3485
9	14 mm	-	356
10	14 mm	-	5708
11	12 mm	-	3395
12	11 mm	2	1711
13	11 mm	5	239
14	10 mm	-	5865

Probus

2 = figure reverse

15	15 mm	8	2042
16	14 mm	10	4179

Temple

17	13 mm	-	1373a
18	12 mm	-	803

B GALLIC EMPIRE

Postumus

19	19 mm	-	1379
20	16 mm	6	1276

Jupiter

21	16 mm	11	5895
22	14 mm	2	5900

Victorinus

23	Aequitas Aug	20 mm	8	6732
24		14 mm	4	6866

Invictus

25	18 mm	5	6766
26	15 mm	5	6804
27	17 mm	6	459
28	16 mm	7	1553
29	16 mm	12	198
30	16 mm	9	6864
31	15 mm	10	3401
32	15 mm	8	-
33	14 mm	1	1875
34	14 mm	6	6383
35	14 mm	12	4259
36	14 mm	11	4237
37	14 mm	2	4236
38	12 mm	10	801
39	12 mm	1	6821
40	12 mm	10	2121
41	12 mm	11	1352
42	12 mm	-	5033
43	12 mm	9	6061
44	11 mm	10	1515
45	11 mm	2	214
46	11 mm	5	5876
47	11 mm	4	5913
48	10 mm	11	5724
49	10 mm	5	5726
50	9 mm	6	5922
51	17 mm	6	4238
52	16 mm	12	189
53	15 mm	4	509
54	14 mm	2	5877
55	13 mm	3	4261

Pax Aug

56	20 mm	6	5576
57	18 mm	5	5888
58	15 mm	4	1679
59	15 mm	11	1819
60	14 mm	8	1652
61	13 mm	2	-

Providentia Aug

62	17 mm	12	319
63	17 mm	3	1467
64	17 mm	5	676
65	16 mm	-	4172
66	15 mm	9	5855
67	15 mm	8	5894
68	14 mm	5	5637
69	14 mm	12	4265
70	13 mm	12	4205
71	13 mm	5	6851

72	12 mm	3	5045
73	12 mm	5	4244
74	11 mm	2	5890
75	10 mm	8	3714
76	9 mm	–	6848
77	7 mm	5	5927

Salus Aug

78	22 mm	7	3829
79	12 mm	9	216

Virtus Aug

80	18 mm	6	759
81	15 mm	2	4258

Tetricus I and II

Fides Militum

82	19 mm	2	4171
83	17 mm	5	2104
84	15 mm	10	808
85	15 mm	5	3715
86	15 mm	8	4206
87	14 mm	3	5869
88	12 mm	–	4254

Hilaritas Augg

89	17 mm	4	1738
90	17 mm	11	66
91	16 mm	12	1931
92	16 mm	7	–
93	16 mm	5	4282
94	16 mm	2	6322
95	15 mm	7	5879
96	15 mm	3	5710
97	12 mm	10	5908

Laetitia

98	17 mm	11	1869
99	16 mm	2	353
100	16 mm	6	1019
101	15 mm	2	1737
102	15 mm	12	1622
103	15 mm	9	1742
104	14 mm	12	4260
105	14 mm	11	362
106	14 mm	5	6801
107	13 mm	10	1862
108	13 mm	7	5707
109	13 mm	10	6831
110	12 mm	7	6125

Mars Victor

111	18 mm	6	1832
112	18 mm	4	4257

113	15 mm	10	240
114	15 mm	2	5631
115	13 mm	2	-
116	12 mm	5	4274

Pax Aug

117	20 mm	10	1264
118	19 mm	3	364
119	19 mm	6	1422
120	19 mm	2	6131
121	19 mm	1	6764
122	18 mm	11	147
123	18 mm	2	5590
124	17 mm	10	33
125	17 mm	2	1319
126	17 mm	11	793
127	17 mm	-	3917
128	16 mm	12	6112
129	16 mm	6	182
130	16 mm	11	4243
131	16 mm	2	6789
132	16 mm	10	6805
133	16 mm	-	360
134	16 mm	4	6351
135	16 mm	5	5885
136	16 mm	-	5896
137	16 mm	2	4207
138	16 mm	7	5614
139	15 mm	11	795
140	15 mm	3	650
141	15 mm	5	151
142	15 mm	5	1025
143	15 mm	2	198
144	15 mm	2	73
145	15 mm	2	5899
146	15 mm	2	1130
147	15 mm	2	4242
148	15 mm	-	802
149	15 mm	11	1365
150	15 mm	9	6802
151	15 mm	9	245
152	14 mm	12	811
153	14 mm	4	1279
154	14 mm	9	1376
155	14 mm	11	53153
156	14 mm	9	4263
157	14 mm	3	4240
158	14 mm	11	3861
159	14 mm	3	4248
160	14 mm	9	3334
161	13 mm	11	5704
162	13 mm	11	5705
163	13 mm	8	235
164	12 mm	5	239
165	12 mm	7	6803
166	12 mm	1	5912
167	12 mm	5	5882
168	11 mm	5	-
169	11 mm	11	5720
170	10 mm	9	1824

171	10 mm	5	1920
172	20 mm	11	3828
173	19 mm	5	5036
174	15 mm	10	–
175	14 mm	9	5706

Pietas

176	17 mm	5	5665
177	16 mm	2	5643
178	16 mm	3	1813
179	16 mm	2	1828
180	16 mm	1	3826
181	15 mm	2	333
182	14 mm	9	3124
183	14 mm	2	G4978
184	13 mm	11	49
185	13 mm	4	1364
186	12 mm	2	5866
187	12 mm	3	1707
188	12 mm	–	3271
189	11 mm	7	102
190	10 mm	5	1933
191	10 mm	2	5916
192	10 mm	5	3711
193	10 mm	12	3913
194	8 mm	–	195

Salus Augg

195	17 mm	7	1289
196	17 mm	5	203
197	17 mm	5	–
198	16 mm	7	4256
199	15 mm	2	330
200	15 mm	8	308
201	15 mm	8	–
202	15 mm	8	4239
203	14 mm	8	3096
204	14 mm	12	1465
205	14 mm	–	6003
206	14 mm	–	1933
207	14 mm	4	4247
208	13 mm	10	3943
209	12 mm	5	1930
210	12 mm	2	6850
211	11 mm	11	805
212	11 mm	12	1366
213	7 mm	–	5925
214	18 mm	11	215
215	17 mm	10	310
216	16 mm	8	4170
217	15 mm	10	6827
218	15 mm	7	5712
219	14 mm	7	3225

Spes

220	19 mm	–	106A
221	17 mm	10	644

222	17 mm	2	1560
223	17 mm	2	1629
224	17 mm	7	6122
225	17 mm	10	4166
226	17 mm	12	6360
227	16 mm	6	4251
228	16 mm	5	6807
229	16 mm	8	3336
230	16 mm	4	645
231	16 mm	–	21
232	15 mm	5	–
233	15 mm	4	5652
234	15 mm	12	2046
235	15 mm	10	19
236	15 mm	11	243
237	15 mm	8	6111
238	15 mm	2	61
239	15 mm	12	351
240	15 mm	7	5703
241	15 mm	1	6809
242	15 mm	4	4266
243	14 mm	12	157
244	14 mm	7	4253
245	14 mm	1	6808
246	13 mm	2	1734
247	16 mm	10	5620
248	13 mm	7	5682

Victoria Aug

249	18 mm	11	2179
250	17 mm	3	1793
251	16 mm	–	1856
252	12 mm	11	6767
253	12 mm	1	1909

Virtus Augg

254	24 mm	–	789
255	21 mm	5	1319
256	21 mm	12	1463
257	18 mm	11	1933
258	17 mm	7	5037
259	17 mm	4	1762
260	16 mm	8	5933
261	16 mm	11	2047
262	15 mm	–	6076
263	13 mm	12	6806
264	12 mm	2	5035
265	12 mm	2	5577
266	10 mm	5	2138
267	10 mm	–	5039

Tetricus I, uncertain rev.

268	20 mm	8	5709
269	18 mm	–	770
270	18 mm	–	3875/61
271	17 mm	2	1957
272	17 mm	6	1651
273	17 mm	–	1319

274		16 mm	8	3875/55
275		16 mm	–	1812
276		16 mm	–	1847
277		16 mm	9	–
278		16 mm	10	196
279		15 mm	7	75
280		15 mm	–	19
281		15 mm	–	1790
282		15 mm	10	1932
283		15 mm	10	6813
284		15 mm	6	3201
285		15 mm	12	5581
286		14 mm	5	70
287		14 mm	10	6811
288		14 mm	–	4278
289		14 mm	–	56
290		14 mm	–	3875/54
291		14 mm	2	361
292		14 mm	2	1280
293		14 mm	–	3310

Tetricus II, uncertain rev.

294		19 mm	4	1676
295		16 mm	8	1644
296		16 mm	8	V0481
297		16 mm	–	347
298		15 mm	–	3875/59
299		15 mm	–	1573
300		15 mm	2	5891
301		15 mm	2	2045
302		15 mm	4	5040
303	Head left	13 mm	–	34
304		12 mm	–	170
305		12 mm	3	5727
306		11 mm	–	1258
307		10 mm	5	5893
308		10 mm	–	5728
309		8 mm	6	–
310		18 mm	6	G49284
311		17 mm	–	2124
312		15 mm	11	6352

Invictus/ewer group types

313	Invictus	17 mm	6	331
314		13 mm	–	4262
315	Invictus	14 mm	2	6800
316	Invictus	13 mm	11	G49338
317	Invictus	14 mm	12	818
318	Ewer	13 mm	7	6788
319	Ewer	12 mm	3	1739
320		11 mm	–	4787
321		15 mm	10	812
322	Implements	15 mm	2	1932
323	Invictus	14 mm	–	1524
324	Invictus	13 mm	–	1660
325		13 mm	–	339
326	Invictus	14 mm	4	4235
327		17 mm	3	1386
328	Invictus	17 mm	2	4255

329	Invictus	15 mm	6	5653
330	Invictus	15 mm	3	154
331	Ewer	18 mm	6	3090
332	Ewer	14 mm	9	1317

Blank reverse

333	Illeg.	16 mm	-	1933

Unidentifiable figure rev.

334	18 mm	-	3104
335	16 mm	-	1666
336	16 mm	4	6733
337	15 mm	6	1312
338	15 mm	2	3093
339	15 mm	11	3713
340	12 mm	3	366

Male fig. with shield, right

341	19 mm	2	3400
342	13 mm	11	-

Figure in 'trough'

343	14 mm	4	622
344	12 mm	2	5906
345	11 mm	7	5046

Design reverse

346	19 mm	7	6857
347	17 mm	7	6845
348	15 mm	-	4283
349	14 mm	-	20
350	14 mm	-	2093
351	14 mm	-	5901
352	13 mm	-	6385
353	12 mm	-	5819
354	12 mm	-	5721

Uncertain minims

355-498	35x13 mm
	49x12 mm
	22x11 mm
	21x10 mm
	11x9 mm
	4x8 mm
	1x7 mm
	1x6 mm

Unclassifiable

499-637	3x21 mm
	1x20 mm
	1x19 mm
	13x18 mm
	17x17 mm
	29x16 mm

32x15 mm
39x14 mm
4x uncertain

Verulamium, Frere's excavations

A CENTRAL EMPIRE

Gallienus

1	Fecunditas?	17 mm	2	80
2	Dianae Cons Aug	16 mm	4	359
3		16 mm	-	50

Claudius II

4	Fem.fig.l.	21 mm	1	30

Divo Claudio

Altar

5		17 mm	6	90
6		16 mm	7	62
7		16 mm	5	259
8	Concentric squares	15 mm	-	85
9		15 mm	12	166
10		15 mm	1	149

Eagle

11		17 mm	12	7
12		16 mm	6	Unstrat.
13		15 mm	1	92
14		14 mm	6	59

B GALLIC EMPIRE

Postumus

15		19 mm	12	43

Victorinus

Aequitas Aug

16		18 mm	12	97

Invictus

17		18 mm	12	167
18		16 mm	7	110

Pax Aug

19		19 mm	4	78
20		18 mm	6	133

21		16 mm	–	11
22		14 mm	–	3
		Salus Aug		
23		16 mm	6	262
		Tetricus I and II		
		Hilaritas Augg		
24		19 mm	6	–
25		19 mm	6	182
		Laetitia		
26		17 mm	10	87
27		12 mm	7	390
		Pax Aug		
28		19 mm	3	34
29		18 mm	5	72
30		18 mm	6	4
31		18 mm	5	19
32		18 mm	12	3
33		17 mm	4	562
34		17 mm	3	281
35		16 mm	12	191
36		15 mm	6	56
37		15 mm	1	16
38		14 mm	–	120
39		14 mm	1	108
40		13 mm	10	33
41		13 mm	9	147
42	'Pax Aug' group	13 mm	5	12
		Pietas		
43		17 mm	4	1
44		17 mm	12	21
45		16 mm	1	7
46		16 mm	7	24
47		15 mm	11	132
48		15 mm	8	44
49		12 mm	7	15
50		11 mm	11	195
51		11 mm	10	185
		Salus		
52		20 mm	7	477
53		18 mm	4	172
54		16 mm	12	181
55		14 mm	3	168
56		13 mm	1	21
57		13 mm	10	7
58		13 mm	1	202

Spes

59		20 mm	6	19
60		19 mm	12	70
61		19 mm	6	3
62		18 mm	2	36
63		18 mm	12	148
64		17 mm	6	10
65		16 mm	12	263
66		15 mm	6	44
67		13 mm	12	94
68		13 mm	6	189

Victoria Aug

69		18 mm	4	5

Virtus Augg

70		18 mm	2	74
71		18 mm	4	69
72		16 mm	11	88
73		14 mm	12	193

Tetricus I, Figure on horseback reverse

74	IMP C TETRICUS PF AUG	16 mm	11	32

Tetricus I, Uncertain rev.

75		19 mm	5	218
76		19 mm	12	27
77		18 mm	6	67
78		17 mm	1	48
79		17 mm	9	89
80		15 mm	2	225
81		15 mm	8	30
82		12 mm	-	49

Tetricus II, Uncertain rev.

83		20 mm	11	20
84		18 mm	-	226
85		17 mm	6	61
86		16 mm	12	194
87		15 mm	1	25

Uncertain minims

88-109		5x13 mm		
		8x12 mm		
		3x11 mm		
		4x10 mm		
		1x9 mm		
		1x8 mm		

Uncertain/illegible

110-130		1x19 mm		
		1x18 mm		

3x17 mm
1x16 mm
9x15 mm
6x14 mm

Watford

1 Victorinus 11 mm 9
Providentia Aug

Site and hoard finds from the county of Sussex,

described in chapter 9

Sussex

Bow Hill (CHIM)	3
Brighton (BRIGM)	1
Brighton, Dale Hill (BRIGM)	1
Bulverhythe (LWM)	1
Chanctonbury (LWM)	6
Charleston Brow (LWM)	21
Chichester (CHIM)	69
Near Chichester (Personal collection)	6
Chilgrove villas (CHIM)	53
Eastbourne (LWM)	1
Fishbourne (FISM)	24
South of Fisbourne (FISM)	1
Hassocks (LWM)	1
Lewes, Cliffe Hill (LWM)	1
Patcham (BRIGM)	1
Pevensey Castle (LWM)	1
Sweet Hill, Patcham (BRIGM)	1
Telscombe (BRIGM)	1
Washington (LWM)	1
Wyndham Country Club (LWM)	1
Unprovenanced die-links (BRIGM)	3

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Listing of groups of coins from the Worthing hoard.

Listing of groups of coins from the Goring-on-Sea hoard.

Bow Hill

1	(Victor) INVS PF AVG INVI(ctus)	18 mm	2	3609
2	Tetricus I CO(mes Aug)	19 mm	11	3628
3	Tetricus I Illeg.	15 mm		3627

Brighton

1	DIVO CL- Altar	17 mm	5	2705/26

Dale Hill, Brighton

1	Claudius II Altar	16 mm	10	

Bulverhythe

1	Salus?	16 mm	2	

Chanctonbury

Victorinus

1	Invictus	16 mm	2	
2	Virtus	19 mm	6	Elmer 699

Tetricus I and II

3	M(ars Victor)	14 mm	10	Elmer 794 rev.
4	Pax	14 mm	12	
5	Pax	12 mm		
6	Salus	14 mm	4	

Charleston Brow

A CENTRAL EMPIRE

Gallienus

1	Doe, walking l.	11 mm		

B GALLIC EMPIRE

Victorinus

2	Invictus, rev'd.	12 mm	1	
3	Pax	15 mm	9	

Tetricus I and II

Fides Militum

4	14 mm	6	

Hilaritas Augg

5	17 mm	11	
6	14 mm	5	
7	12 mm	11	
8	12 mm		

Pax Aug

9	12 mm	8	
10	12 mm		
11	11 mm	2	

Salus Augg

12	16 mm	11	
13	15 mm	6	

Tetricus I, uncertain rev.

14	14 mm	2	

Uncertain minims

15-19	1x13 mm		
	1x12 mm		
	2x11 mm		
	1x9 mm		

Unclassifiable

20-21	2x14 mm		

Chichester

A CENTRAL EMPIRE

Gallienus

1	Oriens Aug	16 mm	11	3199	As RIC 494

Claudius II

2	Marti Pacifero	16 mm	7	3639

Divo Claudio

Altar type

3	17 mm	1	3217
4	17 mm	2	4000
5	14 mm	7	887
6	8 mm		317

Eagle type

7		15 mm	7	892	

B GALLIC EMPIRE

Postumus

8	O(riens Aug)	15 mm	12	3566	Elmer 568/9

Victorinus

Invictus

9		20 mm	1	758
10		16 mm		178
11		18 mm	6	1940
12		12 mm	3	403

Tetricus I and II

Laetitia

13		17 mm	7	734

Pax Aug

14		24 mm	5	731
15		20 mm	2	3225
16		19 mm	6	740
17		16 mm	2	3658
18		15 mm	7	3634
19		15 mm	11	3648
20		16 mm	4	315
21		14 mm	6	3654
22		13 mm	8	3235

Pietas

23		16 mm	11	737

Salus Augg

24		21 mm	6	732
25		12 mm	12	40

Spes

26		21x17 mm	8	906
27		19 mm	12	893
28		18 mm	6	749
29		17 mm	5	1518

Victoria/Comes Aug

30		17 mm	6	3197
31		16 mm	1	3245

Virtus Augg

32		20 mm	2	750
33		18 mm	8	736
34		17 mm	9	905

Tetricus I, uncertain rev.

35		19 mm	11	1494
36		17 mm		885
37		16 mm		2010

Tetricus II, uncertain rev.

38		17 mm	11	3416
39		16 mm	8	890
40		13 mm	3	15

Gallic Empire, uncertain female figure

41		16 mm	3	2020

Uncertain figure reverse

42		15 mm	7	3234

Invictus/Ewer group types

43	No leg. Large ewer	15 mm	12	3657
44	Invictus, r.	14 mm	12	2265
45	No leg. Uncertain fig.	14 mm	11	3655

Uncertain minims

46-5	3x13 mm	
	5x12 mm	
	3x11 mm	
	1x9 mm	

Unclassifiable

58-69	4x16 mm	
	4x15 mm	
	4x14 mm	

Near Chichester

A CENTRAL EMPIRE

Divo Claudio

Altar type

1		14 mm	12	0.85g

B GALLIC EMPIRE

Victorinus

Invictus

2	(2 mm thick)	14 mm	5	2.06g
3		15 mm	9	0.75g

Tetricus I and II

Pietas

4		14 mm	12	1.65g
5		12 mm	5	0.6g

Uncertain minim

6	Pin fig.,r.	10 mm	6	0.78g

The Chilgrove Villas

A CENTRAL EMPIRE

Gallienus

1	Illeg.fig.	17 mm	12	580

Claudius II

2	Male fig.,staff l.	16 mm	2	245

Divo Claudio

Altar type

3		11 mm		519
4		11 mm		417
5		10 mm	2	77
6		9 mm		466
7		7 mm		327

Eagle type

8		18 mm	12	243

B GALLIC EMPIRE

Victorinus

Invictus

9		11 mm	6	14

Virtus Aug

10		15 mm	12	436

Tetricus I and II

Pax Aug

11		14 mm	6	209
12		12 mm		417

Salus Augg

13		16 mm	5	491

Spes

14		16 mm	7	39
15		13 mm	10	474
16		12 mm		356

Uncertain figure reverse

17	Pin fig.1.	14 mm	6	520

Uncertain minims

4x12 mm
6x11 mm
7x10 mm
3x9 mm
11x8 mm
3x7 mm
2x6 mm

Eastbourne, Old Town

1	Tetricus I Hilaritus, rev'd.	16 mm	8

Fishbourne

A CENTRAL EMPIRE

Divo Claudio

Altar type

1		19 mm	1	65
2		16 mm		135
3		16 mm	11	1015
4		16 mm	5	1883
5		12 mm		48

Eagle type

6		11 mm	1	265

B GALLIC EMPIRE

Victorinus

7		17 mm	1	1842
8		15 m		107

Tetricus I and II

Hilaritas Augg

9		18 mm	12	142

Laetitia

10		15 mm	2	106

Pax Aug

11		18 mm	12	1501
12		17 mm	6	257
13		17 mm	5	19
14		17 mm	6	56

Pietas

15		16 mm	5	155

Salus Augg

16		19 mm	7	1869

Virtus Augg

17		17 mm	1	1091
18		17 mm	6	2091

Gallic Empire, uncertain female figure

19		20 mm	5	47
20		15 mm	4	149

Uncertain figure reverse

21	Male fig.l.	17 mm	12	1873

Uncertain minims

22-23	1x12 mm 1x8 mm	

Unclassifiable

24	1x17 mm	

South of Fishbourne

1		19 mm	5	FBH 82 C3

Hassocks

1	Claudius II Providentia Aug	21 mm	7	

Cliffe House, Lewes

1	Divo Claudio Consecratio, Eagle	19 mm	5	1 1/2mm thick flan

Patcham

1	Victorinus (P)AX A(ug)	17 mm	2	R2801

Pevensey Castle

1	Victorinus Pax?	20 mm	5	

Sweet Hill, nr. Patcham

1	Divo Claudio CONSE- Eagle	13 mm	1	R1063/1

Highdole Hill, Telscombe

1	Very worn Invictus?	14 mm		R4659/7

Washington

1	Victorinus SALVS AVG	22 mm	10	

Wyndham Country Club, nr. Brighton

1	Very worn	13 mm		

Unprovenanced coin group, Brighton Museum

(Donated by P.Wilmer)

1	Tetricus II	16 mm	5	R.993/23
2	Tetricus II	16 mm	3	R.993/23
3	Tetricus II	20 mm	5	R.993/22

Die- and style-linked groups from the Mill Road, Worthing, Hoard

These groups are described in chapter 9.

GROUP	COIN WEIGHT	DIAMETER	THICKENSS	DIE-AXIS
Die-group 7 (17)	0.78g	11 mm	1.5 mm	
	0.90g	11 mm	2.0 mm	
	0.70g	9 mm	1.5 mm	
	0.55g	11 mm	1.5 mm	
	0.44g	9 mm	1.5 mm	
	0.28g	8 mm	1.0 mm	
	0.41g	9 mm	1.0 mm	
	0.31g	9 mm	1.0 mm	
	0.29g	9 mm	1.0 mm	
	0.58g	9 mm	1.5 mm	
	0.28g	8 mm	1.0 mm	
	0.20g	8 mm	1.0 mm	
	0.26g	9x6 mm	1.0 mm	
Die-group 8 (18)	0.85g	11 mm	2.0 mm	
	0.78g	10 mm	2.0 mm	
	0.41g	9 mm	1.5 mm	
	0.45g	8 mm	1.5 mm	
	0.30g	8 mm	1.5 mm	
Die-group 9 (19)	0.65g	9 mm	2.0 mm	
	0.28g	8 mm	1.0 mm	
	0.43g	7 mm	1.5 mm	
	0.40g	8 mm	1.5 mm	
Die-group 10 (20)	0.69g	10 mm	1.5 mm	
	0.47g	9 mm	1.5 mm	
	0.54g	9 mm	1.5 mm	
	0.30g	9 mm	1.0 mm	
Die-groups 11 and 12 (21)	0.34g	8 mm	1.0 mm	
	0.45g	7 mm	1.5 mm	
	0.32g	8 mm	1.0 mm	
	0.43g	7 mm	1.5 mm	
	0.44g	8 mm	1.5 mm	
Die-group 13 (22)	0.51g	9 mm	1.5 mm	
	0.37g	7 mm	1.5 mm	
	0.59g	9 mm	2.0 mm	
	0.28g	8 mm	1.5 mm	
Invictus types, group 27 (42)	1.39g	13 mm	2.0 mm	8
	0.50g	14 mm	1.0 mm	5
	0.66g	12 mm	1.5 mm	12
	0.95g	13 mm	1.5 mm	12
	0.49g	14 mm	1.5 mm	4
	0.87g	13 mm	1.0 mm	7
	0.42g	14 mm	0.5 mm	2
	0.86g	15 mm	1.0 mm	12
	0.85g	14 mm	1.0 mm	6

	1.37g	15 mm	1.5 mm	8
	1.34g	12 mm	2.0 mm	1
	1.37g	12 mm	2.0 mm	6
	0.79g	12 mm	1.5 mm	7
	0.55g	12 mm	1.0 mm	9
	0.50g	12 mm	1.5 mm	1
	0.89g	12 mm	1.5 mm	5
	0.74g	11 mm	1.0 mm	9
	0.83g	15 mm	1.0 mm	-
	0.77g	14 mm	1.0 mm	5
	0.70g	13 mm	1.0 mm	-
	0.82g	14 mm	1.0 mm	5
	0.47g	12 mm	1.0 mm	5
	0.70g	11 mm	1.5 mm	2
	0.88g	13 mm	1.5 mm	5
	0.72g	14 mm	1.0 mm	12
	0.80g	11 mm	1.5 mm	9
	0.52g	13 mm	1.0 mm	1
	0.38g	13 mm	1.0 mm	5
	0.40g	12 mm	0.5 mm	8
	0.76g	12 mm	1.0 mm	7
	0.50g	11 mm	1.5 mm	6
	0.70g	13 mm	1.0 mm	-
	0.78g	11 mm	1.5 mm	2
	0.62g	13 mm	1.0 mm	10
	0.76g	9 mm	2.0 mm	2
	0.59g	12 mm	1.0 mm	6
	0.33g	11 mm	1.0 mm	-
	0.42g	12 mm	1.0 mm	2
	0.34g	12 mm	1.0 mm	8
	0.51g	12 mm	1.0 mm	8
	0.38g	12 mm	1.0 mm	7
	0.35g	12 mm	1.0 mm	-
	0.45g	12 mm	1.0 mm	3
	0.35g	11 mm	1.0 mm	-
Very small Invictus types, group 28 (43)	0.21g	10 mm	0.5 mm	11
	0.46g	9 mm	1.0 mm	-
	0.62g	10 mm	1.5 mm	5
	0.75g	10 mm	1.5 mm	10
	0.40g	8 mm	1.5 mm	9
	0.48g	10 mm	1.5 mm	3
	0.40g	9 mm	1.5 mm	6
	0.37g	9 mm	1.5 mm	7
	0.60g	11 mm	1.5 mm	10
	0.23g	8 mm	1.0 mm	5
	2.10g	8 mm	1.0 mm	-
Invictus types - Sol reversed group 29 (44)	1.75g	16 mm	1.5 mm	12
	0.83g	15 mm	1.0 mm	4
	0.73g	11 mm	1.5 mm	10
	0.40g	10 mm	1.0 mm	7
	0.40g	12 mm	1.0 mm	1
	0.35g	13 mm	1.0 mm	7
Die-group 30 (68)	0.52g	13 mm	1.0 mm	5
	0.64g	9 mm	1.5 mm	5
	0.39g	10 mm	1.0 mm	10

	0.60g	11 mm	1.0 mm	–
	0.53g	9 mm	2.0 mm	–
	0.39g	8 mm	1.0 mm	–
	0.43g	11 mm	1.5 mm	11
	0.25g	7 mm	1.0 mm	–
	0.35g	7 mm	1.5 mm	–
	0.27g	7 mm	1.0 mm	–
	0.37g	8 mm	1.5 mm	–
Small-portrait group 31 (70)	0.30g	9 mm	1.0 mm	7
	0.56g	10 mm	1.0 mm	5
	0.15g	6 mm	1.0 mm	6
	0.23g	6 mm	1.5 mm	–
	0.27g	6 mm	1.5 mm	–
	0.25g	7 mm	1.0 mm	–
	0.35g	7 mm	1.5 mm	–
	0.23g	6 mm	1.0 mm	–
	0.22g	6 mm	1.5 mm	–
	0.19g	5 mm	1.0 mm	–
Small portraits, Tetricus I, group 32 (83)	0.50g	10 mm	1.0 mm	3
	1.27g	8 mm	3.0 mm	–
	0.96g	10 mm	2.0 mm	–
	0.70g	13 mm	1.0 mm	6
	0.80g	10 mm	2.0 mm	1
	0.83g	9 mm	2.5 mm	–
	0.46g	9 mm	1.5 mm	12
	0.68g	9 mm	2.0 mm	–
	0.39g	11 mm	1.0 mm	5
	0.84g	12 mm	1.0 mm	–
	0.61g	10 mm	1.5 mm	–
	0.72g	12 mm	1.5 mm	–
	0.69g	10 mm	1.5 mm	–
	0.41g	10 mm	1.0 mm	11
	0.75g	10 mm	1.5 mm	7
	0.73g	10 mm	1.5 mm	–
	0.40g	10 mm	1.0 mm	–
	0.68g	10 mm	1.5 mm	–
	0.44g	11 mm	1.0 mm	–
	0.36g	10 mm	1.0 mm	–
	0.36g	10 mm	1.0 mm	–
	0.50g	10 mm	1.0 mm	–
	0.48g	9 mm	1.0 mm	12
	0.47g	11 mm	1.0 mm	–
	0.47g	9 mm	1.0 mm	–
	0.46g	12 mm	1.0 mm	–
	0.69g	9 mm	1.5 mm	–
	0.45g	9 mm	1.0 mm	–
	0.42g	8 mm	1.0 mm	–
	0.56g	11 mm	1.0 mm	12
	0.44g	9 mm	1.5 mm	–
	0.28g	10 mm	1.0 mm	–
	0.35g	12 mm	1.0 mm	11
	0.42g	12 mm	1.0 mm	–
	0.48g	12 mm	1.0 mm	–
	0.33g	10 mm	1.0 mm	–
	0.25g	8 mm	1.0 mm	–
	0.35g	9 mm	1.0 mm	–
	0.58g	10 mm	1.0 mm	–

0.30g	13 mm	0.5 mm	–
0.34g	11 mm	1.0 mm	–

Die- and style-linked groups from the Goring-on-Sea Hoard

These groups are described in chapter 9.

GROUP	COIN WEIGHT	DIAMETER	THICKNESS	DIE-AXIS
Die-group 2 (2)	0.65g	14 mm	1.0 mm	3
	0.66g	12 mm	1.0 mm	3
Die-group 6 (11)	3.40g	15 mm	3.5 mm	12
	2.90g	15 mm	3.0 mm	3
	1.42g	15x10 mm	2.0 mm	11
	1.50g	15x10 mm	2.0 mm	3
	0.98g	12 mm	2.0 mm	–
	0.95g	11 mm	2.0 mm	2
	0.95g	11 mm	1.5 mm	5
	0.95g	10 mm	2.0 mm	6
	0.55g	11 mm	1.5 mm	3
	1.10g	11 mm	2.5 mm	–
	0.90g	11 mm	2.0 mm	–
	0.54g	11 mm	1.5 mm	12
	0.98g	11 mm	2.0 mm	2
	0.88g	13 mm	1.5 mm	11
	0.91g	12 mm	1.5 mm	5
	0.83g	11 mm	2.0 mm	11
	1.10g	10 mm	2.0 mm	–
	0.63g	10 mm	1.5 mm	–
	0.56g	10 mm	1.5 mm	6
Die-group 7 (12)	0.53g	16x12 mm	0.5 mm	7
	0.62g	14 mm	1.0 mm	7
	0.70g	14 mm	1.0 mm	6
	0.41g	14 mm	1.0 mm	4
	0.54g	13 mm	1.0 mm	12
	0.50g	12 mm	1.0 mm	3
	0.55g	13 mm	1.0 mm	5
	0.52g	14x8 mm	1.0 mm	8
	0.29g	10 mm	0.5 mm	5
	0.28g	10 mm	0.5 mm	–
	0.46g	12 mm	0.5 mm	10
	0.24g	9 mm	1.0 mm	8
	0.36g	10 mm	1.0 mm	5
	0.30g	9 mm	0.5 mm	1
	2.80g	10 mm	0.5 mm	3
'Pax Aug' group 15 (19)	0.83g	15 mm	1.0 mm	5
	0.61g	14 mm	1.0 mm	7
	1.11g	13 mm	1.5 mm	9
	0.74g	13 mm	1.0 mm	6
	0.38g	12 mm	0.5 mm	6
	0.86g	12 mm	1.5 mm	6
	0.74g	14 mm	1.0 mm	4
	0.87g	14 mm	1.0 mm	3
	0.75g	13 mm	1.0 mm	6
	0.71g	15 mm	1.0 mm	7
	0.61g	13 mm	1.0 mm	10
	0.46g	13 mm	1.0 mm	6

	0.31g	11 mm	0.5 mm	11
	0.75g	14 mm	1.0 mm	3
	0.60g	12 mm	1.0 mm	7
Invictus/ewer group				
18 (22)	1.34g	16 mm	1.5 mm	3
	0.90g	14 mm	1.5 mm	3
	1.02g	16 mm	1.0 mm	4
	0.41g	12 mm	1.0 mm	4
	0.60g	13 mm	1.5 mm	-
Blank flans 19 (42)	0.45g	12 mm	1.0 mm	
	0.38g	13 mm	0.5 mm	
Victorinus minims				
group 20 (8)	0.76g	11 mm	1.5 mm	10
	1.12g	10 mm	2.0 mm	-
	1.14g	13 mm	1.5 mm	-
	0.53g	11 mm	1.0 mm	-
	0.66g	14 mm	1.0 mm	1
	0.88g	12 mm	1.0 mm	10
	0.72g	11 mm	1.5 mm	2
	0.40g	13 mm	1.0 mm	6
Invictus types				
group 21 (25)	1.04g	15 mm	1.0 mm	5
	0.78g	13 mm	1.0 mm	-
	1.26g	16 mm	1.5 mm	-
	0.64g	13 mm	1.0 mm	11
	0.66g	13 mm	1.0 mm	-
	0.91g	11 mm	1.5 mm	8
	0.84g	10 mm	1.5 mm	1
	0.68g	13 mm	1.0 mm	7
	1.30g	14 mm	1.5 mm	9
	0.57g	13 mm	1.0 mm	5
	0.59g	9 mm	1.5 mm	2
	0.97g	11 mm	2.0 mm	2
	0.68g	15 mm	1.0 mm	7
	0.79g	14 mm	1.0 mm	8
	0.72g	12 mm	1.5 mm	4
	0.48g	10 mm	1.0 mm	8
	0.52g	11 mm	1.0 mm	12
	0.39g	12 mm	1.0 mm	2
	0.77g	10 mm	2.0 mm	10
	0.45g	10 mm	1.0 mm	6
	0.38g	11 mm	1.0 mm	4

Site finds from the counties of Kent, London, Surrey and Essex, described in chapter 10

KENT

Aylesford (MAIDM)	1
Canterbury (542 from CtEx, 24 at CtM, 401 from Professor Frere)	967
Canterbury (CtM)	5
Farningham (DARM)	6
Hartlip villa (MAIDM)	3
Horton Kirby (DARM)	1
Kits Coty (MAIDM)	2
Mount villa, Maidstone (MAIDM)	8
Otford (DARM)	1
Richborough (FH)	2010
Springhead (DARM)	1
	3005

Aylesford

1	Tetricus Female fig.1.	25 mm	6	

Canterbury Excavations

Including Museum coins - denoted by 'CtM'

A CENTRAL EMPIRE

Gallienus

1	Oriens?	17 mm	5	CtM 2368
2	Pax Aug	18 mm	12	186
3	Libertas?	16 mm	4	139
4	Dianae Cons Aug	15 mm	11	1939

Claudius II

5		12 mm	-	864
6		17 mm	3	2133
7		15 mm	-	21
8		20 mm	12	23

Divo Claudio

Altar

9		15 mm	-	1909
10		15 mm	1	1148
11		18 mm	6	1875
12		16 mm	12	1969
13		18 mm	-	392
14		17 mm	2	433
15		14 mm	12	2951
16		16 mm	6	3592
17		15 mm	12	1921
18		15 mm	11	2103
19		14 mm	8	978
20		14 mm	-	1704
21		14 mm	6	1705
22		9 mm	-	1712
23		16 mm	2	103

Eagle

24	Thick flan	16 mm	6	CtM 9099
25		15 mm	7	2050
26		16 mm	1	1867
27		16 mm	12	1633
28		15 mm	12	950
29		15 mm	-	1076
30		15 mm	1	1711
31		14 mm	3	539

Quintillus

32	Providentia Aug	13 mm	4	1887

Probus

33	Providentia Aug	12 mm	11	136

B GALLIC EMPIRE

Postumus

34	Female fig.1.	21 mm	9	1589

Victorinus

35		13 mm	-	CtM 89
36		17 mm	10	1377
37		14 mm	8	3162
38		15 mm	-	1610
39		17 mm	-	159

Invictus

40		14 mm	11	93
41		15 mm	12	1900
42		16 mm	2	1918
43		19 mm	-	80
44		20 mm	5	27
45		17 mm	10	1629
46		18 mm	10	1247
47		16 mm	-	177
48		16 mm	9	1019
49		15 mm	11	521
50		14 mm	-	538
51		15 mm	2	3045
52		10 mm	9	3156
53		13 mm	5	10711
54		12 mm	12	2280
55		13 mm	3	2695
56		12 mm	12	160
57		17 mm	6	1192
58		15 mm	9	161
59		15 mm	7	181
60		12 mm	5	47
61		13 mm	11	398
62		14 mm	1	191

Pax Aug

63		15 mm	2	CtM 9099
64		18 mm	1	1906
65		15 mm	4	2394
66		17 mm	11	336
67		13 mm	9	150
68		18 mm	12	2757
69		16 mm	1	1100
70		17 mm	12	686

Providentia Aug

71		15 mm	11	CtM 204
72		11 mm	6	CtM 1952/23
73		14 mm	10	1920

74	16 mm	7	1919
75	17 mm	1	2265
76	18 mm	10	264
77	15 mm	8	602
78	16 mm	7	773
79	12 mm	–	1671
80	14 mm	11	1817
81	14 mm	3	41
82	16 mm	7	842
83	11 mm	7	1049

Salus Aug

84	19 mm	6	891
85	18 mm	12	635
86	16 mm	3	803
87	17 mm	11	792
88	19 mm	11	1131

Victoria Aug

89	18 mm	1	581

Virtus Aug

90	15 mm	12	1862
91	19 mm	–	1881
92	14 mm	3	55

Tetricus I and II

Fides Militum

93	17 mm	12	CtM 2356
94	16 mm	9	CtM 9095
95	11 mm	4	797
96	11 mm	7	1699
97	19 mm	1	322
98	17 mm	11	1017
99	13 mm	2	684
100	10 mm	3	998
101	16 mm	6	1230
102	14 mm	12	1630
103	17 mm	2	442

Hilaritas Augg

104	10 mm	7	CtM 91
105	15 mm	8	888
106	19 mm	–	1060
107	15 mm	5	1539
108	16 mm	6	1158
109	15 mm	3	1148
110	11 mm	12	922
111	14 mm	–	1540
112	13 mm	7	1577
113	13 mm	5	1744

Laetitia

114	18 mm	6	1914

115	16 mm	5	1987
116	17 mm	12	2292
117	17 mm	2	2377
118	19 mm	7	192
119	17 mm	1	1007
120	16 mm	6	1721
121	15 mm	9	1388
122	14 mm	1	1350

Mars Victor

123	14 mm	3	1953
124	17 mm	5	1899
125	13 mm	5	811

Pax Aug

126	14 mm	9	CtM 1953/76/8
127	17 mm	8	CtM 94
128	14 mm	-	1600
129	18 mm	-	1613
130	17 mm	1	1585
131	19 mm	2	1387
132	18 mm	-	406
133	19 mm	11	1219
134	16 mm	12	1902
135	15 mm	12	1854
136	17 mm	5	1954
137	15 mm	12	1922
138	15 mm	1	1972
139	17 mm	1	1923
140	16 mm	10	1888
141	15 mm	4	1913
142	16 mm	1	961
143	19 mm	-	1205
144	14 mm	3	1602
145	16 mm	5	854
146	15 mm	3	852
147	18 mm	11	779
148	16 mm	5	1736
149	17 mm	7	1152
150	16 mm	12	1167
151	14 mm	1	834
152	16 mm	7	870
153	12 mm	3	1412
154	19 mm	-	29
155	17 mm	1	706
156	18 mm	3	702
157	16 mm	6	793
158	20 mm	-	2269
159	15 mm	11	925
160	15 mm	8	1579
161	17 mm	2	2257
162	14 mm	11	1074
163	15 mm	6	2459
164	17 mm	6	812
165	16 mm	1	944
166	11 mm	1	451
167	17 mm	-	1276
168	20 mm	7	867
169	19x13 mm	5	1604

170	17 mm	11	1890
171	12 mm	1	513
172	15 mm	3	774
173	13 mm	7	2941
174	13 mm	–	3674
175	15 mm	2	2540
176	19 mm	7	2859
177	12 mm	7	1693
178	17 mm	–	609
179	18 mm	9	348
180	11 mm	7	231
181	10 mm	–	172
182	11 mm	6	173
183	17 mm	10	156
184	15 mm	6	105
185	13 mm	2	1226
186	17 mm	3	1201
187	18 mm	1	1046
188	17 mm	11	994
189	13 mm	12	736
190	16x11 mm	2	533
191	16 mm	6	770
192	13 mm	12	999
193	13 mm	5	1548
194	16 mm	10	1728
195	14 mm	5	1734
196	15 mm	10	1799
197	17 mm	1	1884
198	14 mm	10	303
199	13 mm	7	406
200	17 mm	7	1
201	14 mm	6	112
202	17 mm	11	244
203	15 mm	12	291
204	15 mm	3	345
205	14 mm	4	455
206	14 mm	5	461
207	12 mm	8	58
208	17 mm	11	38
209	17 mm	12	30
210	15 mm	3	294

Pietas

211	16 mm	12	1894
212	17 mm	12	1908
213	19 mm	5	1218
214	16 mm	12	386
215	20 mm	7	533
216	13 mm	6	3362
217	16 mm	12	1225
218	12 mm	1	1151
219	15 mm	2	227
220	18 mm	6	3357
221	15 mm	9	692
222	18 mm	3	1813

Salus Augg

223	16 mm	–	242
224	15 mm	11	865

225	17 mm	7	1759
226	18 mm	7	1973
227	19 mm	3	1901
228	17 mm	11	1637
229	13 mm	12	179
230	17 mm	6	1210
231	19 mm	-	2427
232	15 mm	4	2345
233	17 mm	7	452
234	16 mm	12	189
235	19 mm	1	922
236	18 mm	7	1636
237	16 mm	7	36
238	16 mm	6	2067
239	12 mm	6	3063
240	17 mm	-	1095
241	15 mm	3	2012
242	14 mm	7	454
243	15 mm	11	53
244	15 mm	9	1173
245	21 mm	5	782
246	17 mm	6	740
247	14 mm	12	1205
248	14 mm	6	1756
249	14 mm	12	1928
250	16 mm	3	460
251	11 mm	12	1404
252	12 mm	6	599

Spes

253	17 mm	7	CtM 82
254	17 mm	-	379
255	13 mm	-	1612
256	15 mm	12	1956
257	17 mm	6	1897
258	16 mm	12	1988
259	16 mm	12	1197
260	14 mm	12	1397
261	17 mm	6	559
262	17 mm	7	530
263	16 mm	9	525
264	14 mm	-	186
265	12 mm	-	1673
266	17 mm	6	890
267	15 mm	5	634
268	17 mm	9	1173
269	15 mm	11	1986
270	11 mm	4	2070
271	15 mm	1	1766
272	19 mm	12	936
273	17 mm	6	861
274	17 mm	10	849
275	13 mm	-	2960
276	16 mm	12	2111
277	14 mm	6	2454
278	16 mm	9	163
279	16 mm	12	143
280	15 mm	7	1303
281	12 mm	9	1065
282	11 mm	6	1034

283	18	mm	6	862
284	15	mm	9	505
285	8	mm	8	629
286	16	mm	6	761
287	14	mm	11	1097
288	14	mm	7	1586
289	14	mm	2	1913
290	18	mm	–	1363
291	17	mm	3	1472
292	21	mm	5	141
293	16	mm	7	449
294	16	mm	2	430
295	15	mm	3	480
296	16	mm	5	54

Victoria Aug

297	15	mm	10	1917
298	16	mm	11	1952
299	17	mm	5	2137
300	16	mm	1	435
301	19	mm	1	929
302	18	mm	6	1695
303	18	mm	–	2452
304	18	mm	–	657
305	17	mm	10	269
306	14	mm	5	363

Virtus Augg

307	17	mm	2	1989
308	16	mm	7	2020
309	15	mm	–	254
310	18	mm	–	1375
311	15	mm	2	2539
312	14	mm	6	9
313	15	mm	11	1188
314	19x13	mm	9	966
315	12	mm	12	1798
316	17	mm	8	1324

Tetricus I, uncertain rev.

317	18	mm	3	CtM 9099
318	14	mm	6	1905
319	15	mm	11	1959
320	14	mm	1	1825
321	16	mm	–	1847
322	14	mm	9	1669
323	19	mm	9	1694
324	14	mm	2	31
325	15	mm	2	1055
326	19	mm	11	1319
327	18	mm	–	721
328	14	mm	–	1066
329	18	mm	–	1179
330	12	mm	–	1577
331	16	mm	–	455
332	15	mm	–	448
333	18	mm	–	444
334	13	mm	–	1393

335		15 mm	7	2908
336		15 mm	6	2915
337		13 mm	6	3077
339		14 mm	-	3160
340		14 mm	6	3541
341		18 mm	3	807
342		16 mm	-	2827
343		14 mm	-	2104
344		12 mm	-	611
345		18 mm	12	1390
346		18 mm	7	1292
347		13 mm	11	-
348		13 mm	12	1149
349		13 mm	11	424
350		15 mm	-	637
351		13 mm	10	713
352		12 mm	3	992
353		14 mm	3	1733
354		17 mm	10	1817
355		18 mm	9	1508
356		13 mm	-	447
357		15 mm	8	278
359		14 mm	2	129
360		15 mm	9	62

Tetricus II, uncertain rev.

361		17 mm	10	172
362		10 mm	8	2593
363		15 mm	3	705
364		15 mm	-	1338

Invictus/ewer group

365	Invictus	13 mm	-	1176
366	?	14 mm	1	830
367	Ewer	13 mm	3	1885

Illegible coin, female fig.rev.

368		14 mm	9	CtM 92
369		14 mm	2	1958
370		15 mm	2	432
371		18 mm	-	422
372		16 mm	12	1616
373		14 mm	6	1383
374		12 mm	11	1534
375		16 mm	10	2308
376		14 mm	5	1820
377		14 mm	12	2129
378		14 mm	3	1720
379		16 mm	5	27

Uncertain figure rev.

380		15 mm	6	862
381		17 mm	-	2126
382		13 mm	5	857
383		19 mm	11	851
384		15 mm	-	983
385		16 mm	11	1543

386	14 mm	10	2658
387	16 mm	–	–
388	16 mm	–	2783
389	12 mm	–	1692
390	16 mm	1	146
391	14 mm	9	1093
392	15 mm	12	711
393	17b mm	4	712
394	15 mm	10	305
395	16 mm	11	1818
396	14 mm	–	1384
397	20 mm	1	180

Design reverse

398	18 mm	–	323
399	11 mm	–	180
400	15 mm	–	111

Uncertain minims

401–472	10x13 mm
	20x12 mm
	18x11 mm
	11x10 mm
	9x9 mm
	3x8 mm
	1x7 mm

Unclassifiable

473–566	1x22 mm
	1x21 mm
	1x20 mm
	5x19 mm
	15x18 mm
	10x17 mm
	13x16 mm
	22x15 mm
	26x14 mm

Canterbury. Frere's excavations

A CENTRAL EMPIRE

Gallienus

1	Salus Aug	20 mm	1	1267
2	Marti Pacifero	17 mm	12	1513
3	Dianae Cons Aug	14 mm	7	2054
4	Pax Aug	14 mm	1	1636

Claudius II

5		23 mm	6	2181
6	Virtus Aug	22 mm	12	25
7	Fem. fig. l.	17 mm	7	1142
8		17 mm	6	1382

Divo Claudio. Altar rev.

9		15 mm	6	47
10		15 mm	6	53
11		16 mm	12	301
12		15 mm	–	–
13		16 mm	7	–
14		15 mm	1	1074
15		13 mm	12	2118
16		19 mm	1	30
17		14 mm	2	440
18		16 mm	12	1820
19		15 mm	12	1822
20		13 mm	–	1955
21		13 mm	–	–
22		15 mm	7	–
23		12 mm	–	–
24		13 mm	1	2116

Eagle rev.

25		18 mm	5	24
26		15 mm	6	–
27		17 mm	9	1270
28		16 mm	–	1075
29		19 mm	6	1515
30		16 mm	12	1516
31		14 mm	11	2115
32		14 mm	10	2114
33		12 mm	1	2112
34		16 mm	11	6
35		16 mm	12	1891
36		14 mm	12	1886
37		14 m	7	1823
38		14 mm	–	–
39		16 mm	–	1024

Uncertain rev.

40	Divo Claudio	Fragmented	2246

B GALLIC EMPIRE

Postumus

41	Pax Aug	20 mm	1	2051
42	Oriens Aug	19 mm	7	1378
43	Pax Aug	18 mm	12	1356

Victorinus

44		16 mm	7	1749
45	Fortuna	16 mm	12	–

Invictus

46		17 mm	3	309
47		19 mm	1	1958
48		14 mm	3	17
49		16 mm	9	–
50		10 mm	–	–
51		13 mm	12	–
52		14 mm	6	–
53		14 mm	5	–
54		15 mm	8	–
55		14 mm	12	1765
56		12 mm	3	1776
57		15 mm	11	1773
58		12 mm	12	–

Pax Aug

59		19 mm	5	42
60		14 mm	5	–
61		12 mm	2	3

Providentia Aug

62		16 mm	4	78
63		15 mm	7	260
64		13 mm	6	–

Salus Aug

65		15 mm	11	217

Tetricus I and II

Fides Militum

66		15 mm	11	1106
67		13 mm	1	2170
68		16 mm	12	–
69		16 mm	8	1771

Hilaritas Augg

70		22 mm	12	306
71		18 mm	3	1898
72		10 mm	–	–
73		11 mm	6	–
74		15 mm	–	–

75	17 mm	6	1642
	Laetitia		
76	15 mm	–	74
77	18 mm	6	451
78	16 mm	12	466
79	15 mm	9	71
80	15 mm	6	1392
81	11 mm	12	–
	Mars Victor		
82	15 mm	1	1199
83	18 mm	6	74
	Pax Aug		
84	19 mm	12	26
85	18 mm	10	43
86	12 mm	9	37
87	15 mm	10	36
88	12 mm	2	35
89	14 mm	–	219
90	15 mm	11	217
91	14 mm	9	67
92	12 mm	2	54
93	16 mm	6	253
94	15 mm	–	267
95	17 mm	4	382
96	16 mm	1	1027
97	20x15 mm	3	–
98	19 mm	12	1150
99	17 mm	–	–
100	14 mm	7	1279
101	13 mm	12	1182
102	18 mm	4	1088
103	13 mm	12	1174
104	14 mm	9	1173
105	16 mm	5	2137
106	14 mm	12	2171
107	13 mm	6	18
108	17 mm	12	23
109	16 mm	9	9c
110	16 mm	6	37
111	19 mm	1	102
112	14 mm	12	1352
113	15 mm	9	1676
114	16 mm	6	1978
115	18 mm	–	–
116	11 mm	1	–
117	11 mm	–	–
118	11 mm	2	–
119	14 mm	3	–
120	15 mm	3	–
121	18 mm	12	1770
122	15 mm	6	1757
123	12 mm	2	1644
124	17 mm	6	1963
125	14 mm	12	1974
126	16 mm	5	1971

127	16 mm	1	1175
128	16 mm	–	Pit 12

Pietas

129	15 mm	–	273
130	14 mm	6	271
131	15 mm	4	1107
132	16 mm	1	1594
133	11 mm	5	1529
134	12 mm	7	2178
135	15 mm	–	3
136	14 mm	6	1391
137	14 mm	11	1980
138	16 mm	11	1977
139	12 mm	5	1594
140	17 mm	9	–
141	10 mm	4	–
142	13 mm	9	–
143	14 mm	3	–
144	20x16 mm	11	2025
145	10 mm	–	–
146	15 mm	1	–
147	16 mm	5	1759

Salus Augg

148	19x13 mm	6	272
149	19 mm	3	1014
150	20 mm	7	1275
151	17 mm	1	1153
152	17 mm	10	1095
153	18 mm	12	1531
154	19 mm	6	3
155	14 mm	3	42
156	14 mm	12	122
157	15 mm	6	1893
158	16 mm	5	1641
159	14 mm	7	2050
160	17 mm	1	–

Spes

161	16 mm	6	23
162	18 mm	6	55
163	17 mm	12	275
164	15 mm	–	289
165	15 mm	12	274
166	14 mm	5	1158
167	18 mm	11	1154
168	15 mm	12	1324
169	13 mm	6	1380
170	17 mm	7	1526
171	16 mm	8	1593
172	17 mm	–	1591
173	16 mm	5	2142
174	15 mm	7	2165
175	16 mm	7	2172
176	13 mm	4	–
177	18x15 mm	6	–
178	16 mm	12	5

179	17 mm	6	9
180	13 mm	1	9
181	16 mm	7	10
182	16 mm	8	11
183	17 mm	6	3
184	15 mm	11	–
185	19 mm	12	1829
186	15 mm	12	1897
187	16 mm	7	1961
188	16 mm	6	1381
189	15 mm	12	–
190	12 mm	12	–
191	12 mm	–	–
192	15 mm	4	1768
193	14 mm	6	2057

Victoria Aug

194	17 mm	12	202
195	14 mm	10	248
196	18 mm	4	2167
197	17 mm	11	1589

Virtus Augg

198	17 mm	6	72
199	12 mm	12	1527
200	19 mm	4	2180
201	14 mm	3	2058
202	13 mm	7	–
203	15 mm	5	1560

Tetricus I, uncertain rev.

204	14 mm	–	308
205	13 mm	8	287
206	14 mm	10	285
207	10 mm	–	288
208	16 mm	12	1029
209	13 mm	6	1030
210	14 mm	9	1286
211	18 mm	12	1276
212	16 mm	–	1288
213	16 mm	1	1277
214	14 mm	9	1289
215	8 mm	6	1194
216	13 mm	–	1293
217	17 mm	–	2175
218	15 mm	12	–
219	11 mm	3	–
220	17 mm	8	11
221	16 mm	3	77
222	15 mm	9	1676
223	15 mm	7	1899
224	14 mm	–	1900
225	15 mm	–	
226	14 mm	6	1755
227	16 mm	12	1647
228	15 mm	5	1964

Tetricus II, uncertain rev.

229	17 mm	1	44
230	16 mm	–	204
231	13 mm	8	77
232	10 mm	6	404
233	15 mm	4	291
234	13 mm	10	1025
235	16 mm	7	1184
236	17 mm	1	–
237	18x15 mm	–	1321
238	13 mm	–	1528
239	14 mm	8	1895
240	13 mm	–	2138
241	20 mm	12	2173
242	11 mm	12	2166
243	14 mm	7	78
244	14 mm	12	1976
245	16 mm	–	–
246	15 mm	–	–
247	15 mm	–	–
248	14 mm	–	–
249	13 mm	4	–
250	14 mm	1	–
251	19 mm	6	1769

Uncertain minims

252-328	24x13 mm
	21x12 mm
	16x11 mm
	10x10 mm
	3x9 mm
	3x8 mm

Unclassifiable

329-401	1x22 mm
	2x20 mm
	1x19 mm
	3x18 mm
	5x17 mm
	20x16 mm
	20x15 mm
	20x14 mm
	1x?

Canterbury area

1	Divo Claudio altar	21 mm	2	9102
2	Divo Claudio eagle	16 mm	6	9099
3	Victorinus Pax Aug	15 mm	2	9099
4	Victorinus Providentia Aug	16 mm	9	9095
5	Tetricus I Salus Augg	18 mm	3	9099

Farningham, Franks Hall

1	Claudius II Felicitas Aug			
2	Divo Claudio eagle	17 mm		6
3	Victorinus Pax Aug	19x14 mm		6
4	Tetricus I Pax Aug	13 mm		1
5	" Spes	17 mm		10
6	Tetricus II Illeg.	17 mm		

Hartlip Villa

1	Victorinus Invictus	17 mm	3
2	Victorinus Pax Aug	18 mm	9
3	Tetricus II Pietas - incuse rev.	17 mm	12

Horton Kirby

1	Tetricus I Spes	13 mm	9

Kits Coty

1	Tetricus I Salus Augg	18 mm	
2	Tetricus II Spes	17 mm	3

Maidstone, Mount Villa

1	Divo Claudio eagle	14 mm	8	S.24
2	Tetricus II Pax Aug	12 mm	8	V33
3	Tetricus I Pax Aug	12 mm	2	W.21
4	Tetricus I Spes	16 mm	5	
5	Tetricus II Spes	15 mm	12	T.27
6	Illeg.	12 mm		11DU
7	Illeg.	9 mm		16DIOU
8	Illeg.	15 mm	8	21 U/S

Otford

1	Tetricus I Male fig.r.	16 mm	11

A CENTRAL EMPIRE

Gallienus

1		18 mm	–	1	1.76g
2		19 mm	–	2	2.25g
3		20 mm	1	3	1.67g
4		16 mm	11	4	1.28g
5		17 mm	6	5	2.52g
6		17 mm	–	6	1.45g
7		18 mm	6	7	2.07g
8	Dianae Cons Aug	17 mm	9	8	2.01g
9		18 mm	11	855	1.05g
10		12 mm	12	1304	0.65g

Claudius II

11		16 mm	1	9	1.57g
12		16 mm	–	10	0.99g
13		17 mm	–	11	1.75g
14		17 mm	–	12	2.48g
15	Fides	15 mm	12	13	1.38g
16		15 mm	–	14	0.72g
17		16 mm	6	15	0.95g
18		18 mm	6	16	1.51g
19		16 mm	5	17	0.92g
20		15 mm	–	18	0.74g
21		15 mm	–	19	1.12g
22	Pax Aug	16 mm	7	20	1.54g
23		15 mm	–	21	1.75g
24		15 mm	12	22	1.19g
25		20 mm	12	23	1.95g
26		15 mm	–	24	0.86g
27		16 mm	–	25	1.51g
28		15 mm	–	26	0.87g
29		18 mm	7	27	1.15g
30	Victoria Aug	17 mm	7	28	1.79g
31		16 mm	12	29	1.03g
32		14 mm	–	43	0.89g
33		14 mm	–	44	1.28g
34		13 mm	9	45	0.81g
35		17 mm	6	1858	1.90g
36		18 mm	6	1861	1.95g
37	Clasped hands	15 mm	–	1985	–
38		11 mm	12	2016	0.65g

Divo Claudio

39	Eagle	17 mm	4	30	1.63g
40	Altar	14 mm	6	31	1.15g
41	Eagle	18 mm	6	32	1.93g
42	Eagle	16 mm	6	33	1.49g
43	Eagle	15 mm	2	34	1.05g
44	Eagle	15 mm	12	35	1.42g
45	Eagle	16 mm	6	36	1.01g
46	Eagle	15 mm	11	37	2.00g
47	Eagle	16 mm	2	38	1.10g
48	Altar	14 mm	–	39	1.27g
49	Altar	16 mm	9	40	2.58g

50	Eagle	17 mm	6	41	1.05g
51	Altar	15 mm	–	42	1.51g
52	Altar	13 mm	–	46	0.80g
53	Eagle	13 mm	9	47	0.86g
54	Eagle	13 mm	7	48	1.87g
55	Eagle	14 mm	1	49	0.69g
56	Eagle	13 mm	12	50	0.78g
57	Altar	12 mm	–	51	0.54g
58	Altar	11 mm	–	52	0.43g
59	Altar	10 mm	–	53	0.33g
60	Illeg.	13 mm		820	0.67g
61	Eagle	17 mm	–	1855	1.57g
62	Illeg.	16 mm	–	1856	1.27g
63	Illeg.	13 mm	–	1857	0.66g

B GALLIC EMPIRE

Postumus

64		21 mm	7	54	1.55g
65		16 mm	4	88	1.71g
66	Felicitas	13 mm	7	68	0.79g
67	Felicitas	14 mm	5	69	1.18g

Victorinus

68		15 mm	6	55	0.86g
69		20 mm	10	56	2.78g
70		17 mm	12	57	1.58g
71		16 mm	–	58	1.57g
72		16 mm	1	59	1.50g
73		14 mm	1	61	1.06g
74		17 mm	–	62	1.24g
75		17 mm	12	102	1.66g
76		20 mm	–	1068	3.12g
77		18 mm	11	1859	1.63g
78		14 mm	4	1925	1.30g

Aequitas Aug

79		20 mm	12	63	2.40g
80		16 mm	7	64	1.93g
81		19 mm	12	65	3.87g
82		14 mm	11	66	0.90g
83		14 mm	12	67	0.76g

Fortuna

84		13 mm	3	84	0.98g
85		15 mm	5	85	0.56g
86		18 mm	4	86	1.91g
87		15 mm	12	87	1.20g
88		16 mm	4	89	2.32g
89		13 mm	10	90	0.68g
90		13 mm	10	91	0.99g
91		11 mm	3	92	0.61g
92		13 mm	4	93	0.99g
93		15 mm	6	94	0.95g

Invictus

94		13 mm	11	151	1.11g
95		11 mm	1	152	0.69g
96		13 mm	12	153	0.87g
97		13 mm	7	154	0.74g
98		14 mm	10	155	0.93g
99		12 mm	–	156	0.69g
100		14 mm	11	157	0.72g
101		16 mm	6	158	0.43g
102		14 mm	12	159	0.98g
103		16 mm	–	160	1.10g
104		17 mm	–	161	2.30g
105		19 mm	–	162	1.92g
106		15 mm	10	163	0.87g
107		17 mm	12	164	2.00g
108		13 mm	12	165	0.57g
109		14 mm	1	166	0.95g
110		16 mm	5	167	2.13g
111		19 mm	5	168	1.07g
112		19 mm	12	169	1.99g
113		16 mm	11	170	0.93g
114		16 mm	11	171	1.21g
115		17 mm	11	172	3.47g
116		12 mm	12	173	0.87g
117		13 mm	11	174	1.35g
118		12 mm	8	175	1.00g
119		13 mm	1	176	0.79g
120		15 mm	2	177	0.99g
121		20 mm	12	178	1.54g
122		18 mm	7	179	1.40g
123		14 mm	–	180	0.81g
124		16 mm	7	181	1.32g
125		21 mm	6	182	3.80g
126		15 mm	3	183	0.90g
127		17 mm	2	184	0.94g
128		15 mm	5	185	0.98g
129		14 mm	11	186	1.47g
130		13 mm	10	187	0.72g
131		15 mm	–	188	–
132		15 mm	–	189	–
133		16 mm	6	190	1.12g
134		13 mm	3	1945	0.37g
135	Invictus/ewer gp.	14 mm	4	1992	1.12g
136		11 mm	12	2027	0.50g

Pax Aug

137	16 mm	10	60	1.59g
138	17 mm	7	224	1.55g
139	17 mm	9	244	1.71g
140	13 mm	4	257	1.28g
141	17 mm	10	273	1.12g
142	18 mm	12	274	1.84g
143	16 mm	3	330	0.78g
144	16 mm	3	335	1.64g
145	14 mm	5	383	1.22g
146	19 mm	10	384	1.87g
147	18 mm	11	391	3.10g
148	16 mm	6	408	1.11g
149	14 mm	6	414	0.86g

150	14 mm	12	415	0.83g
151	12 mm	12	427	1.04g
152	13 mm	12	442	1.40g
153	10 mm	11	470	0.62g
154	19x15 mm	9	2014	2.80g

Providentia Aug

155	13 mm	11	523	0.98g
156	18 mm	6	524	1.22g
157	14 mm	11	525	0.94g
158	15 mm	8	526	1.37g
159	15 mm	7	527	1.24g
160	16 mm	9	528	0.62g
161	14 mm	9	529	0.65g
162	13 mm	5	530	0.74g
163	17 mm	12	531	1.24g
164	13 mm	10	532	0.78g
165	12 mm	7	533	0.72g
166	20 mm	-	534	2.32g
167	18 mm	3	535	2.53g
168	15 mm	3	536	1.44g
169	12 mm	3	537	0.75g
170	13 mm	11	538	1.19g
171	12 mm	9	539	0.61g

Salus Aug

172	17 mm	6	557	4.05g
173	14 mm	6	596	1.43g

Virtus Aug

174	19 mm	11	847	1.16g

Tetricus I and II

Fides Militum

175	13 mm	7	70	0.95g
176	15 mm	3	71	0.91g
177	12 mm	1	72	0.66g
178	17 mm	6	73	1.85g
179	16 mm	3	74	1.65g
180	14 mm	2	75	0.99g
181	15 mm	5	76	0.90g
182	16 mm	6	77	0.85g
183	18 mm	12	78	3.24g
184	19 mm	12	79	2.38g
185	18 mm	3	80	1.78g
186	11 mm	12	81	0.47g
187	12 mm	10	82	0.55g
188	12 mm	11	83	1.05g
189	14 mm	11	1164	1.58g
190	17 mm	–	1860	1.75g

Hilaritas Augg

191	13 mm	9	95	0.84g
192	13 mm	5	96	1.21g
193	13 mm	1	97	0.48g
194	13 mm	4	98	0.38g
195	17 mm	12	99	1.54g
196	17 mm	5	100	1.97g
197	16 mm	12	101	2.57g
198	14 mm	1	103	1.16g
199	18 mm	6	104	1.49g
200	20 mm	12	105	2.11g
201	15 mm	10	106	1.63g
202	16 mm	11	107	1.29g
203	14 mm	3	108	1.10g
204	16 mm	1	109	1.77g
205	19 mm	6	110	2.41g
206	17 mm	8	111	1.37g
207	14 mm	11	112	1.70g
208	19 mm	3	113	2.42g
209	16 mm	11	114	1.48g
210	19 mm	1	115	2.25g
211	16 mm	12	116	1.83g
212	15 mm	6	117	0.94g
213	13 mm	12	118	0.85g
214	16 mm	7	119	1.70g
215	13 mm	3	120	1.15g
216	11 mm	–	981	0.81g
217	17 mm	6	1862	1.75g
218	14 mm	12	1946	1.18g

Laetitia

219	13 mm	10	123	1.13g
220	13 mm	11	124	0.76g
221	11 mm	7	125	0.76g
222	14 mm	4	126	1.02g
223	15 mm	12	127	1.20g
224	13 mm	9	128	0.98g
225	16 mm	11	129	1.49g
226	16 mm	12	130	2.78g
227	14 mm	7	131	1.57g
228	15 mm	6	132	1.47g
229	16 mm	5	133	2.72g
230	16 mm	6	134	1.33g
231	16 mm	6	135	2.71g
232	15 mm	2	136	1.32g
233	14 mm	3	137	1.41g
234	14 mm	11	138	0.81g
235	16 mm	12	139	3.21g
236	19 mm	6	140	1.14g
237	16 mm	5	141	1.33g
238	17 mm	5	142	1.12g
239	17 mm	6	143	1.27g
240	15 mm	11	144	1.79g
241	14 mm	2	145	1.53g
242	15 mm	4	146	2.21g
243	13 mm	9	147	0.70g
244	13 mm	3	148	0.91g
245	13 mm	1	149	2.18g
246	14 mm	6	1222	1.41g
247	17 mm	11	1978	1.85g
248	14 mm	12	1979	1.67g
249	14 mm	12	2003	1.00g

Mars Victor

250	15 mm	9	150	1.74g

Pax Aug

251	15 mm	10	191	1.33g
252	19 mm	1	192	1.33g
253	17 mm	6	193	1.39g
254	15 mm	12	194	1.00g
255	17 mm	6	195	0.58g
256	20 mm	5	196	1.83g
257	17 mm	6	197	1.32g
258	17 mm	5	198	1.95g
259	18 mm	6	199	1.58g
260	19 mm	5	200	1.99g
261	15 mm	7	201	1.01g
262	17 mm	1	202	2.79g
263	16 mm	7	203	0.73g
264	16 mm	5	204	0.85g
265	15 mm	-	205	1.32g
266	16 mm	3	206	1.64g
267	17 mm	6	207	1.32g
268	15 mm	7	208	0.82g
269	18 mm	12	209	2.00g
270	18 mm	6	210	1.67g
271	16 mm	12	211	1.20g

272	16 mm	3	212	0.98g
273	15 mm	6	213	1.19g
274	16 mm	6	215	0.75g
275	17 mm	12	215	1.01g
276	17 mm	9	216	2.69g
277	13 mm	2	217	1.27g
278	19 mm	3	218	1.28g
279	17 mm	12	219	1.40g
280	15 mm	9	220	0.97g
281	20 mm	12	221	2.22g
282	17 mm	6	222	1.86g
283	16 mm	-	223	1.90g
284	16 mm	6	225	1.47g
285	16 mm	1	226	1.43g
286	17 mm	11	227	1.93g
287	17 mm	12	228	0.90g
288	17 mm	6	229	2.19g
289	18 mm	12	230	2.54g
290	16 mm	10	231	2.20g
291	17 mm	12	232	2.27g
292	15 mm	3	233	1.31g
293	15 mm	6	234	1.09g
294	15 mm	11	235	1.79g
295	17 mm	1	236	2.58g
296	15 mm	11	237	1.32g
297	14 mm	3	238	0.82g
298	11 mm	11	239	0.61g
299	11 mm	8	240	0.83g
300	15 mm	-	241	1.39g
301	16 mm	6	242	1.63g
302	14 mm	1	243	0.80g
303	17 mm	6	245	1.16g
304	15 mm	1	246	1.57g
305	18 mm	5	247	1.61g
306	14 mm	11	248	1.09g
307	13 mm	8	249	1.00g
308	16 mm	12	250	1.83g
309	15 mm	1	251	0.82g
310	17 mm	7	252	2.48g
311	20 mm	6	253	2.00g
312	17 mm	10	254	1.55g
313	15 mm	6	255	0.78g
314	16 mm	6	256	2.06g
315	17 mm	5	258	1.67g
316	17 mm	11	259	2.39g
317	17 mm	5	260	1.44g
318	16 mm	5	261	1.46g
319	17 mm	5	262	2.47g
320	15 mm	11	263	0.85g
321	17 mm	4	264	1.94g
322	16 mm	6	265	1.71g
323	19 mm	6	266	2.15g
324	16 mm	-	267	0.96g
325	18 mm	9	268	1.84g
326	16 mm	9	269	2.86g
327	17 mm	11	270	1.15g
328	17 mm	6	271	1.86g
329	18 mm	12	272	2.38g
330	14 mm	5	275	0.71g
331	18 mm	-	276	1.99g
332	17 mm	6	277	2.09g

333	17 mm	6	278	1.86g
334	17 mm	6	279	1.77g
335	20 mm	12	280	1.96g
336	17 mm	11	281	1.80g
337	17 mm	5	282	2.30g
338	18 mm	5	283	2.76g
339	18 mm	4	284	2.14g
340	17 mm	6	285	1.60g
341	19x14 mm	12	286	1.28g
342	16 mm	6	287	1.21g
343	17 mm	8	288	1.55g
344	16 mm	11	289	1.46g
345	14 mm	8	290	1.07g
346	15 mm	4	291	0.69g
347	15 mm	6	292	0.39g
348	16 mm	11	293	2.00g
349	17 mm	11	294	1.34g
350	15 mm	10	295	2.96g
351	16 mm	4	296	1.60g
352	14 mm	1	297	0.65g
353	14 mm	9	298	1.71g
354	18 mm	12	299	3.13g
355	15 mm	3	300	1.36g
356	16 mm	7	301	1.94g
357	19 mm	10	302	1.49g
358	14 mm	6	303	1.42g
359	15 mm	2	304	0.79g
360	15 mm	6	305	1.13g
361	16 mm	12	306	0.88g
362	14 mm	11	307	2.38g
363	13 mm	7	308	0.62g
364	15 mm	1	309	1.36g
365	18 mm	6	310	1.99g
366	18 mm	8	311	2.02g
367	15 mm	6	312	1.84g
368	15 mm	9	313	0.57g
369	15 mm	4	314	1.29g
370	17 mm	12	315	2.73g
371	19 mm	12	316	1.31g
372	20 mm	11	317	2.54g
373	19 mm	2	318	2.34g
374	14 mm	5	319	1.04g
375	18 mm	7	320	1.03g
376	17 mm	6	321	1.77g
377	17 mm	8	322	1.11g
378	17 mm	5	323	1.22g
379	17 mm	4	324	2.16g
380	13 mm	6	325	0.90g
381	15 mm	12	326	1.38g
382	14 mm	10	327	0.98g
383	14 mm	9	328	0.71g
384	18 mm	7	329	2.98g
385	17 mm	11	331	1.81g
386	20x16 mm	9	332	2.36g
387	18 mm	2	333	1.12g
388	15 mm	4	334	1.54g
389	15 mm	11	336	1.86g
390	16 mm	9	337	1.51g
391	16 mm	12	338	1.46g
392	19 mm	12	339	1.54g
393	18 mm	4	340	2.04g

394	16 mm	6	341	2.16g
395	15 mm	11	342	1.17g
396	14 mm	6	343	1.26g
397	15 mm	6	344	0.38g
398	14 mm	6	345	0.86g
399	16 mm	11	346	2.57g
400	16 mm	12	347	2.32g
401	17 mm	4	348	2.24g
402	16 mm	9	349	0.56g
403	16 mm	6	350	1.07g
404	18 mm	6	351	1.48g
405	17 mm	5	352	1.30g
406	17 mm	4	353	2.10g
407	15 mm	5	354	0.72g
408	16 mm	12	355	1.97g
409	13 mm	-	356	1.25g
410	19 mm	7	357	1.82g
411	14 mm	5	358	1.12g
412	16 mm	11	359	1.81g
413	16 mm	6	360	1.56g
414	18 mm	5	361	2.38g
415	21 mm	12	362	2.48g
416	18 mm	9	363	1.04g
417	16 mm	6	364	1.63g
418	14 mm	8	365	1.28g
419	16 mm	12	366	1.53g
420	16x12 mm	2	367	0.87g
421	17 mm	1	368	1.66g
422	15 mm	2	369	1.34g
423	14 mm	7	370	0.63g
424	14 mm	12	371	1.14g
425	17 mm	5	372	1.80g
426	16 mm	11	373	1.54g
427	18 mm	5	374	1.42g
428	13 mm	5	375	0.80g
429	15 mm	10	376	0.59g
430	15 mm	6	377	1.01g
431	22x14 mm	5	378	1.13g
432	15 mm	11	379	0.94g
433	14 mm	12	380	1.10g
434	17 mm	12	381	2.37g
435	15 mm	6	382	1.94g
436	17 mm	4	385	2.00g
437	18 mm	12	386	1.65g
438	19x15 mm	9	387	3.11g
439	14 mm	-	388	0.93g
440	14 mm	4	389	1.00g
441	15 mm	12	390	1.55g
442	17 mm	7	392	1.10g
443	15 mm	1	393	0.99g
444	14 mm	3	394	1.49g
445	16 mm	10	395	1.42g
446	16 mm	12	396	1.76g
447	16 mm	6	397	1.34g
448	17x14 mm	5	398	1.56g
449	17 mm	5	399	1.55g
450	18 mm	1	400	1.75g
451	17 mm	4	401	1.43g
452	15 mm	11	402	0.60g
453	17 mm	6	403	1.02g
454	15 mm	6	404	1.12g

455				
456	19 mm	11	405	1.84g
457	18 mm	9	406	1.79g
458	14 mm	-	407	0.96g
459	15 mm	6	409	1.12g
460	16 mm	5	410	1.70g
461	15 mm	2	411	0.76g
462	13 mm	5	412	0.77g
463	12 mm	12	413	0.40g
464	14 mm	7	416	0.62g
465	14 mm	3	417	1.17g
466	12 mm	9	418	0.49g
467	14 mm	12	419	0.88g
468	10 mm	4	420	0.53g
469	10 mm	3	421	0.36g
470	11 mm	7	422	0.55g
471	12 mm	-	423	0.72g
472	12 mm	7	424	0.95g
473	13 mm	8	425	1.09g
474	13 mm	5	426	0.62g
475	14 mm	9	428	1.11g
476	13 mm	8	429	0.84g
477	12 mm	12	430	0.41g
478	12 mm	4	431	0.80g
479	13 mm	10	432	1.02g
480	13 mm	9	433	0.61g
481	14 mm	12	434	0.71g
482	13 mm	5	435	1.22g
483	13 mm	3	436	1.14g
484	13 mm	11	437	0.52g
485	11 mm	12	438	0.41g
486	13 mm	10	439	0.83g
487	12 mm	6	440	1.37g
488	14 mm	1	441	0.73g
489	9 mm	5	443	0.28g
490	15 mm	7	444	1.01g
491	14 mm	5	445	0.65g
492	13 mm	12	446	0.74g
493	12 mm	1	447	0.49g
494	13 mm	6	448	0.68g
495	13 mm	6	449	0.72g
496	9 mm	4	450	0.30g
497	13 mm	6	451	0.94g
498	14 mm	-	452	0.48g
499	13 mm	3	453	0.86g
500	10 mm	3	454	0.67g
501	12 mm	11	455	0.72g
502	13 mm	3	456	0.58g
503	13 mm	7	457	1.33g
504	12 mm	8	458	0.40g
505	13 mm	9	459	0.87g
506	13 mm	6	460	0.91g
507	11 mm	6	461	1.18g
508	12 mm	1	462	1.07g
509	13 mm	10	463	0.59g
510	12 mm	-	464	1.50g
511	13 mm	11	465	1.17g
512	13 mm	7	466	1.17g
513	13 mm	5	467	0.79g
514	12 mm	9	468	0.81g
515	15 mm	9	469	1.22g
	13 mm	1	471	0.52g

516	12 mm	11	472	0.61g
517	11 mm	11	473	0.73g
518	12 mm	-	474	0.46g
519	13 mm	1	475	1.04g
520	12 mm	12	476	0.80g
521	13 mm	12	477	0.92g
522	12 mm	8	478	1.19g
523	12 mm	12	479	0.43g
524	13 mm	6	480	0.78g
525	13 mm	11	481	0.54g
526	13 mm	5	969	0.79g
527	13 mm	11	972	0.66g
528	18 mm	5	1864	1.59g
529	15 mm	12	1865	1.84g
530	17 mm	-	1866	3.07g
531	17 mm	12	1871	2.20g
532	15 mm	6	1872	1.00g
533	18 mm	11	1873	1.31g
534	18 mm	6	1874	1.71g
535	16 mm	6	1875	1.31g
536	21 mm	5	1876	2.01g
537	18 mm	11	1877	1.45g
538	17 mm	12	1878	1.27g
539	18 mm	12	1930	1.61g
540	16x13 mm	2	1932	3.81g
541	15 mm	7	1941	1.98g
542	12 mm	9	1987	0.93g
543	12 mm	-	1988	1.22g
544	19 mm	5	1989	2.30g
545	13 mm	12	1991	1.23g
546	15 mm	10	1993	1.85g
547	15 mm	6	2000	0.82g
548	13 mm	12	2001	0.79g
549	13 mm	7	2002	0.84g
550	14 mm	6	2005	1.02g
551	16 mm	12	2013	1.24g
552	15 mm	4	2018	1.47g
553	16 mm	12	2019	1.67g
554	18 mm	3	2022	1.65g

Pietas

555	11 mm	5	482	1.23g
556	13 mm	5	483	0.78g
557	14 mm	4	484	1.49g
558	14 mm	6	485	0.85g
559	13 mm	3	486	1.58g
560	13 mm	7	487	1.17g
561	13 mm	6	488	1.13g
562	12 mm	12	489	0.67g
563	13 mm	3	490	0.55g
564	11 mm	1	491	0.94g
565	15x11 mm	12	492	1.47g
566	13 mm	12	493	1.16g
567	13 mm	10	494	0.76g
568	14 mm	3	495	1.67g
569	11 mm	10	496	1.16g
570	16 mm	2	497	3.08g
571	12 mm	-	498	0.40g
572	17 mm	3	499	1.84g
573	15 mm	6	500	0.85g

574	16 mm	7	501	1.40g
575	20 mm	7	502	2.91g
576	15 mm	-	503	1.02g
577	17 mm	6	504	1.98g
578	13 mm	6	505	1.32g
579	16 mm	6	506	0.97g
580	16 mm	6	507	2.78g
581	17 mm	11	508	1.60g
582	17 mm	6	509	1.50g
583	14 mm	9	510	2.44g
584	17 mm	12	511	1.93g
585	15 mm	10	512	1.44g
587	19 mm	5	513	2.34g
587	17 mm	7	514	1.38g
588	17 mm	7	515	1.01g
589	14 mm	12	516	2.26g
590	15 mm	-	517	0.93g
591	14 mm	12	518	0.65g
592	15 mm	12	519	1.03g
593	12 mm	11	520	0.68g
594	15 mm	12	521	2.15g
595	15 mm	3	522	1.11g
596	12 mm	6	955	0.92g
597	13 mm	6	963	1.13g
598	16 mm	-	1004	1.44g
599	16 mm	9	1007	1.77g
600	12 mm	3	1032	0.75g
601	12 mm	1	1377	0.69g
602	11 mm	7	1556	0.43g
603	14 mm	1	1990	1.35g
604	13 mm	7	1996	0.41g
605	19 mm	-	1999	-

Salus Augg

606	15 mm	7	540	0.98g
607	18 mm	6	541	1.18g
608	13 mm	8	542	1.22g
609	15 mm	8	543	1.28g
610	15 mm	3	544	1.24g
611	17 mm	6	545	1.03g
612	14 mm	2	546	0.65g
613	11 mm	8	547	0.49g
614	12 mm	10	548	0.50g
615	13 mm	6	549	1.11g
616	13 mm	10	550	0.68g
617	13 mm	4	551	0.59g
618	13 mm	5	552	1.25g
619	13 mm	6	553	0.90g
620	17 mm	7	554	1.84g
621	17 mm	9	555	1.43g
622	18 mm	12	556	1.52g
623	19x15 mm	11	558	1.70g
624	16 mm	11	559	1.12g
625	17 mm	6	560	2.91g
626	16 mm	9	561	1.45g
627	14 mm	9	562	0.80g
628	15 mm	5	563	2.21g
629	15 mm	6	564	0.91g
630	15 mm	7	565	1.76g
631	16 mm	5	566	1.71g

632	18 mm	8	567	2.93g
633	15 mm	11	568	1.31g
634	18 mm	5	569	1.84g
635	15 mm	12	570	1.04g
636	15 mm	5	571	1.94g
637	16 mm	3	572	1.00g
638	14 mm	3	573	1.32g
639	17 mm	2	574	1.72g
640	16 mm	1	575	1.53g
641	16 mm	8	576	1.72g
642	20 mm	12	577	1.70g
643	18 mm	12	578	1.83g
644	14 mm	1	579	1.25g
645	15 mm	7	580	1.02g
646	15 mm	5	581	2.15g
647	15 mm	12	582	1.37g
648	15 mm	1	583	1.69g
649	19 mm	5	584	2.64g
650	19 mm	6	585	1.74g
651	15 mm	11	586	1.21g
652	18 mm	6	587	2.34g
653	16 mm	12	588	1.28g
654	15 mm	3	589	2.66g
655	15 mm	3	590	1.54g
656	16 mm	6	591	0.65g
657	18 mm	7	592	2.47g
658	14 mm	12	593	0.83g
659	13 mm	11	594	1.47g
660	13 mm	12	595	0.92g
661	16 mm	12	597	1.43g
662	17 mm	6	598	1.68g
663	16 mm	10	599	1.28g
664	17 mm	12	600	2.00g
665	17 mm	3	601	1.83g
666	17 mm	2	602	2.52g
667	17 mm	10	603	1.42g
668	18 mm	5	604	2.84g
669	18 mm	7	605	1.98g
670	16 mm	11	606	1.33g
671	15 mm	9	607	-
672	16 mm	5	608	1.79g
673	18 mm	6	609	1.58g
674	15 mm	12	610	2.78g
675	13 mm	9	611	0.60g
676	14 mm	5	612	0.90g
677	11 mm	1	613	0.57g
678	10 mm	1	614	0.73g
679	14 mm	12	615	1.54g
680	20 mm	5	616	1.41g
681	12 mm	6	617	1.43g
682	10 mm	10	618	0.52g
683	12 mm	4	619	1.49g
684	13 mm	5	620	0.81g
685	12 mm	9	621	0.78g
686	14 mm	2	622	0.77g
687	14 mm	10	623	1.08g
688	11 mm	7	624	0.91g
689	14 mm	6	625	1.35g
690	15 mm	3	626	1.34g
691	13 mm	11	627	0.90g
692	14x11 mm	6	628	1.14g

693	13 mm	–	629	0.93g
694	13 mm	6	971	0.69g
695	17 mm	11	1880	1.77g
696	18 mm	6	1881	2.27g
697	19 mm	12	1882	1.25g
698	15 mm	6	1935	1.02g
699	15 mm	6	1936	1.13g
700	15 mm	10	1942	2.02g
701	15 mm	6	1983	1.66g
702	16 mm	4	2012	1.10g
703	17 mm	9	2025	1.15g

Spes

704	12 mm	6	630	1.19g
705	13 mm	–	631	0.62g
706	18 mm	–	632	2.17g
707	14 mm	6	633	1.18g
708	14 mm	4	634	1.51g
709	18 mm	12	635	1.50g
710	13 mm	6	636	0.26g
711	13 mm	11	637	0.72g
712	13 mm	4	638	0.33g
713	12 mm	2	639	0.48g
714	12 mm	6	640	0.32g
715	12 mm	7	641	0.62g
716	14 mm	8	642	0.66g
717	14 mm	6	643	0.97g
718	13 mm	1	644	1.22g
719	13 mm	1	645	0.90g
720	12 mm	12	646	1.45g
721	14 mm	12	647	1.20g
722	14 mm	12	648	0.58g
723	17 mm	6	649	2.02g
724	16 mm	12	650	1.82g
725	16 mm	6	651	1.29g
726	19 mm	–	652	1.22g
727	16 mm	12	653	2.00g
728	18 mm	12	654	2.15g
729	14 mm	6	655	1.44g
730	16 mm	6	656	1.12g
731	17 mm	–	657	1.37g
732	16 mm	4	658	1.44g
733	18 mm	10	659	2.45g
734	15 mm	2	660	1.17g
735	15 mm	1	661	1.95g
736	17 mm	10	662	1.22g
737	17 mm	5	663	1.88g
738	17 mm	12	664	1.32g
739	18 mm	12	665	1.79g
740	16 mm	11	666	1.33g
741	18 mm	3	667	2.66g
742	16 mm	9	668	1.69g
743	15 mm	3	669	1.58g
744	17 mm	12	670	1.26g
745	16 mm	12	671	1.38g
746	18x14 mm	5	672	2.27g
747	16 mm	6	673	1.69g
748	21 mm	5	674	2.33g
749	17 mm	12	675	1.38g
750	18 mm	6	676	1.29g

751	18 mm	6	677	1.80g
752	16 mm	12	678	1.33g
753	16 mm	3	679	1.86g
754	15 mm	12	680	1.41g
755	20 mm	–	681	2.78g
756	14 mm	–	682	0.97g
757	16 mm	5	683	1.16g
758	15 mm	7	684	1.65g
759	16 mm	6	685	3.04g
760	17 mm	6	686	1.82g
761	16 mm	9	687	3.03g
762	16 mm	6	688	1.86g
763	17 mm	6	689	1.76g
764	17 mm	–	690	1.51g
765	16 mm	4	691	0.83g
766	20 mm	6	692	1.93g
767	18 mm	12	693	1.77g
768	23 mm	11	694	3.86g
769	15 mm	8	695	0.65g
770	17 mm	6	696	1.69g
771	18 mm	12	697	1.47g
772	21 mm	6	698	1.67g
773	16 mm	4	699	1.30g
774	15 mm	8	700	1.12g
775	17 mm	12	701	1.80g
776	17 mm	6	702	1.07g
777	17 mm	6	703	2.98g
778	18 mm	12	704	2.15g
779	17 mm	11	705	2.76g
780	18 mm	12	706	2.04g
781	18 mm	5	707	2.54g
782	18 mm	6	708	1.76g
783	16 mm	5	709	2.16g
784	16 mm	4	710	1.99g
785	17 mm	8	711	1.39g
786	13 mm	2	712	0.69g
787	11 mm	8	713	0.86g
788	13 mm	6	714	0.88g
789	17 mm	12	715	1.91g
790	18 mm	12	716	1.90g
791	16 mm	5	717	1.89g
792	16 mm	11	718	2.70g
793	18 mm	12	719	2.43g
794	18 mm	5	720	1.26g
795	16 mm	5	721	2.44g
796	17 mm	12	722	1.81g
797	18 mm	11	723	2.30g
798	18 mm	6	724	1.24g
799	16 mm	5	725	2.87g
800	17 mm	6	726	2.62g
801	19 mm	3	727	2.03g
802	16 mm	8	728	1.79g
803	21x17 mm	11	729	1.98g
804	20 mm	12	730	2.97g
805	21 mm	6	731	1.37g
806	19 mm	12	732	2.71g
807	19 mm	12	733	1.49g
808	18 mm	7	734	2.11g
809	19 mm	12	735	1.76g
810	18 mm	12	736	2.95g
811	18 mm	12	737	2.34g

812	19 mm	5	738	1.71g
813	22 mm	12	739	2.25g
814	15 mm	6	740	0.43g
815	15 mm	9	741	1.18g
816	16 mm	7	742	1.38g
817	18 mm	2	743	2.08g
818	18 mm	6	744	1.02g
819	18 mm	12	745	1.51g
820	18 mm	12	746	0.98g
821	17 mm	7	747	1.32g
822	18 mm	12	748	1.55g
823	16 mm	-	749	1.19g
824	13 mm	5	750	0.96g
825	16 mm	3	751	2.25g
826	14 mm	6	752	1.69g
827	15 mm	6	753	1.39g
828	16 mm	11	754	1.86g
829	16 mm	1	755	1.10g
830	19 mm	12	756	1.49g
831	15 mm	12	757	0.66g
832	16 mm	8	758	1.19g
833	16 mm	2	759	2.15g
834	15 mm	4	760	1.90g
835	16 mm	6	761	1.41g
836	15 mm	7	762	1.35g
837	14 mm	4	763	1.37g
838	14 mm	10	764	1.32g
839	16 mm	6	765	1.05g
840	16 mm	4	766	0.99g
841	18 mm	6	767	1.74g
842	17 mm	6	768	3.43g
843	18 mm	12	769	2.19g
844	19 mm	2	770	1.82g
845	16 mm	6	771	2.18g
846	16 mm	12	772	1.76g
847	20 mm	3	773	1.48g
848	18 mm	4	774	1.90g
849	18 mm	9	775	1.86g
850	16 mm	6	776	1.97g
851	17 mm	5	777	1.36g
852	16 mm	11	778	1.68g
853	15 mm	12	779	1.35g
854	14 mm	12	780	0.85g
855	16 mm	2	781	1.29g
856	18 mm	11	782	1.71g
857	18 mm	6	783	1.70g
8558	18 mm	6	784	2.11g
859	18 mm	12	785	1.95g
860	18 mm	5	786	1.46g
861	20 mm	5	787	2.82g
862	16 mm	6	788	2.38g
863	19 mm	3	789	2.08g
864	19 mm	9	790	1.92g
865	19 mm	5	791	2.23g
866	17 mm	6	792	1.85g
867	15 mm	12	793	1.76g
868	18 mm	1	794	1.48g
869	16 mm	12	795	1.51g
870	17 mm	12	796	1.67g
871	18 mm	12	797	1.77g
872	15 mm	5	798	1.57g

873	10 mm	10	799	2.20g
874	16 mm	11	800	1.53g
875	16 mm	12	801	1.48g
876	16 mm	5	802	1.31g
877	18 mm	11	803	2.47g
878	13 mm	3	985	0.95g
879	13 mm	7	1043	0.52g
880	12 mm	9	1049	0.61g
881	13 mm	7	1053	0.78g
882	17 mm	12	1884	2.05g
883	19 mm	12	1888	1.98g
884	17 mm	9	1890	2.18g
885	14 mm	6	1964	1.35g
886	16 mm	11	1994	1.17g
887	14 mm	5	2011	1.05g
888	16 mm	12	2015	1.64g
889	13 mm	5	2021	0.87g

Victoria Aug

890	10 mm	9	804	0.67g
891	18 mm	6	805	2.12g
892	18 mm	12	806	1.67g
893	16 mm	5	807	2.37g
894	18 mm	5	808	1.40g
895	17 mm	9	809	2.46g
896	18 mm	6	810	2.00g
897	14 mm	2	811	1.56g
898	18 mm	10	812	1.77g
899	19 mm	9	813	2.48g
900	17 mm	12	814	1.72g
901	19 mm	12	815	1.77g
902	15 mm	1	816	2.33g
903	20 mm	1	817	2.80g
904	15 mm	5	818	2.91g
905	14 mm	11	819	0.97g
906	20 mm	4	1891	1.75g
907	16 mm	4	2017	1.19g

Virtus Augg

908	13 mm	-	821	0.75g
909	13 mm	9	822	0.95g
910	17 mm	10	823	0.92g
911	16 mm	4	824	4.39g
912	17 mm	11	825	1.42g
913	17x13 mm	12	826	1.36g
914	18 mm	12	827	2.86g
915	16 mm	5	828	1.15g
916	20 mm	6	829	1.44g
917	17 mm	2	830	2.59g
918	17 mm	4	831	1.74g
919	18 mm	10	832	2.38g
920	15 mm	3	833	1.61g
921	15 mm	9	834	0.94g
922	17 mm	10	835	1.00g
923	14 mm	9	836	1.33g
924	15 mm	5	837	1.14g
925	14 mm	6	838	1.53g
926	16 mm	3	839	1.67g
927	15 mm	3	840	1.34g

928	16 mm	12	841	1.87g
929	14 mm	9	842	0.59g
930	17 mm	12	843	1.38g
931	14 mm	4	844	1.51g
932	16 mm	7	845	1.36g
933	15 mm	12	846	1.53g
934	14 mm	9	848	1.60g
935	16 mm	12	849	2.23g
936	15 mm	12	850	1.03g
937	15 mm	12	851	1.26g
938	10 mm	10	852	2.06g
939	15 mm	10	853	1.09g
940	16 mm	11	854	0.86g
941	16 mm	12	856	1.07g
942	18 mm	12	857	1.72g
943	17 mm	12	858	1.40g
944	14 mm	2	859	0.95g
945	17 mm	6	1893	1.33g
946	17 mm	6	1894	1.75g
947	15 mm	10	1938	1.77g

Tetricus I, uncertain rev.

948-1070	1x21 mm
	2x20 mm
	9x18 mm
	15x17 mm
	16x16 mm
	16x15 mm
	13x14 mm
	28x13 mm
	18x12 mm
	3x11 mm
	2x10 mm

Tetricus II, uncertain rev.

1071-1139	1x21 mm
	1x20 mm
	1x18 mm
	7x17 mm
	12x16 mm
	13x15 mm
	6x14 mm
	12x13 mm
	9x12 mm
	3x11 mm
	3x10 mm
	1x8 mm

Uncertain emperor

1140	Jupiter	13 mm	-	121	0.75g
1141	Jupiter	17 mm	-	122	1.77g

C OTHER CATEGORIES

Illegible obv., female fig.rev.

1142-1315	2x20 mm
	2x19 mm

8x18 mm
18x17 mm
14x16 mm
20x15 mm
27x14 mm
34x13 mm
34x12 mm
8x11 mm
3x10 mm
1x9 mm
2x8 mm
1x7 mm

Pin figure rev.

1316-1400

1x19 mm
1x18 mm
6x17 mm
9x16 mm
17x15 mm
14x14 mm
10x13 mm
13x12 mm
10x11 mm
3x10 mm
1x9 mm

Unidentifiable minims

1401-1641

89x13 mm
64x12 mm
43x11 mm
23x10 mm
16x9 mm
3x8 mm
3x7 mm

Unclassifiable

1642-1930

1x24 mm
1x21 mm
1x20 mm
11x19 mm
27x18 mm
44x17 mm
61x16 mm
70x15 mm
73x14 mm

D UNUSUAL TYPES

Figure with halo

1931	14 mm	2	1997	1.17g
1932	13 mm	2	1998	0.78g

Brockage

1933	13 mm	-	1981	0.97g

Design reverses

1934	21 mm	–	1948	3.82g
1935	14 mm	9	1949	1.53g
1936	16 mm	6	1950	1.42g
1937	13 mm	12	1951	0.81g
1938	16 mm	–	1952	1.14g
1939	14 mm	–	1953	0.88g
1940	13 mm	–	1954	0.96g
1941	16 mm	–	1955	1.55g
1942	15 mm	–	1956	1.46g
1943	17 mm	–	1957	3.38g
1944	14 mm	–	1958	0.96g

'Mint marks'

1945	15 mm	9	1916	0.60g
1946	17 mm	12	1917	1.28g

Seated female

1947	15 mm	4	1918	1.16g
1948	12 mm	4	1919	0.53g

'Man in pit'

1949	15 mm	3	1921	0.56g
1950	13 mm	1	1922	1.75g

Other unusual types

1951-2010	2x20 mm
	6x18 mm
	3x17 mm
	3x16 mm
	18x15 mm
	9x14 mm
	12x13 mm
	6x12 mm
	1x11 mm

Springhead

1	Tetricus I Salus Augg	18 mm	4

London

Greenwich (MAIDM)	2
Havering (PEM)	1
Leyton, Church Street (PEM)	1
Londinium (LONM). These coins come from separate findspots, which are listed after the catalogue entries.	45
	49

Greenwich Park

1	Tetricus I Female fig.	22 mm	6
2	Tetricus I Pax Aug	16 mm	12

Havering

1	Illeg. Salus, reversed	13 mm	9

Leyton, Church Street

1	Tetricus II Spes	12 mm	3

Londinium

These barbarous radiates come from various provenances within the city.

A CENTRAL EMPIRE

Gallienus

1	Female fig.1.	17 mm	5	X579	0.4g

Claudius II

2	Virtus Aug	17 mm	5	X577	0.7g
3		12 mm	5	X578	0.2g

Divo Claudio

4	Altar	16 mm	2	X570	0.5g
5	Altar	16 mm	-	X583	1.3g
6	Altar	15 mm	6	X8	0.25g
7	Altar	15 mm	1	X9	0.9g
8	Altar	15 mm	7	X576	0.9g
9	Eagle	16 mm	6	X11	1.1g

B GALLIC EMPIRE

Victorinus

Fortuna

10		16 mm	10	13	0.55g

Pax Aug

11		20 mm	11	X575	0.75g

Providentia Aug

12	17 mm	1	35	0.6g
13	16 mm	10	X589	2.35g
14	14 mm	6	X571	0.2g
15	13 mm	10	8	0.1g

Tetricus I and II

Fides Militum

16	14 mm	8	X590	1.2g

Pax Aug

17	19 mm	4	X42	1.3g
18	17 mm	4	X10	1.2g
19	15 mm	12	X41	1.75g
20	15 mm	5	99	1.25g
21	14 mm	2	X3	0.45g
22	13 mm	2	X585	0.2g

Pietas

23	15 mm	2	X5	0.45g

Spes

24	18 mm	8	A17775	1.2g
25	17 mm	8	X587	1.8g
26	16 mm	2	X582	0.3g

Virtus Aug

27	10 mm	11	1582,52	0.35g

Uncertain minims

28	Blank flan Unstruck	15x11 mm
29-37		3x15 mm 3x12 mm 2x11 mm 1x9 mm

Unclassifiable

38-45	1x21 mm 1x19 mm 1x18 mm 2x17 mm 1x16 mm 1x15 mm 1x14 mm

Key to findspots of London barbarous radiates

1	Guildhall car park
2	Bank of England
3	Guildhall car park
4	" " "
5	Old Bailey
6	Walbrook, 1954
7	" "
8	Church Alley
9	Walbrook, 1954
10	Duke's Place, 1977
11	Old Bailey
12	St Bartholomews, 1979
13	Bastion 6, London Wall
14	Church Alley
15	St Bartholomews, 1979
16	Walbrook, Bucklesbury House
17	Lloyds site, Lime Street
18	Walbrook, 1954
19	Lloyds site, Lime Street
20	New Fresh Wharf, 1975
21	Aldermanbury, 1951
22	Bassishaw House
23	Walbrook, 1953
24	Thames
25	Bassishaw House
26	St Dunstan's Hill
27	Angel Court, Walbrook, 1974
28	Walbrook, 1953-4
29	Walbrook, 1953
30	Aldermanbury
31	Church Alley
32	Walbrook, 1953
33	Cheapside
34	"
35	Church Alley
36	" "
37	Walbrook, 1953
38	Church Alley
39	St Bartholomews, 1979
40	Christchurch, 1976
41	St Batholomews, 1979
42	Bevis Marks House site
43	Aldermanbury, 1951
44	Aldermanbury
45	Bastion 6, London Wall

Surrey

Farley Heath temple (GUIM)

Farley Heath Temple

1	Divo Claudio Consecratio, altar	17 mm	1	AS807/12
2	Victorinus Invictus	17 mm	6	AS807/10
3	Tetricus I Salus Augg	20 mm	3	AS807/14
4	Tetricus I Salus Augg	14 mm	6	AS807/13

Essex

Colchester (974 from COLM, 355 from CAT)	1329
Goose Lane (M11) (PEM)	2
Woolston Hall Farm (PEM)	2
	1333

Colchester

A total of 974 barbarous radiates from the 1971-81 Colchester excavations were studied for the Colchester Archaeological Trust and the report is included in a monograph entitled, 'The Coins from Colchester' (Colchester Archaeological Report 4; Davies 1987b). At the time of that study, the opportunity was taken to look at 355 examples from previous excavations at Colchester, housed in Colchester Museum, and these are also considered in the same report. A summary of the results is included in chapter 10 of this thesis. A full catalogue of all the Roman coins from Colchester is included in the monograph, on microfiche, and the barbarous radiates will not be re-listed here, separately. A summary of the types present and their size is provided in chapter 10.

Goose Lane (M11)

1	Victorinus Invictus	16 mm	6	17
2	Illeg. Figure	12 mm	-	12

THE MEARE HEATH, SOMERSET, HOARD

BY
J. A. DAVIES

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ABBREVIATIONS

(The abbreviations for the titles of periodical publications and standard works used in this volume of the *Numismatic Chronicle* are printed below.)

AAntHung	*Acta Antiqua Academiae Scientiarum Hungaricae*
ABSA	*Annual of the British School of Archaeology at Athens*
AE	*Année Épigraphique*
AJ	*Archaeological Journal*
AJA	*American Journal of Archaeology*
AMI	*Archaeologische Mitteilungen aus Iran*
AMNG	*Die antike Münzen Nordgriechenlands* (viz. the so-called Berlin Corpus)
ANRW	*Aufstieg und Niedergang der römischen Welt*
ANS	American Numismatic Society
ANSMN	*American Numismatic Society Museum Notes*
Ant. Afr.	*Antiquités Africaines*
ASFN	*Annuaire de la société française de numismatique*
Babelon, *Traité*	E. Babelon, *Traité des monnaies grecques et romaines*, part 2, vols. 1–4, 1907–32
BAR	British Archaeological Reports
BASOR	*Bulletin of the American Schools of Oriental Research in Jerusalem and Baghdad*
BCH	*Bulletin de correspondance hellénique*
BM	British Museum
BMC	*British Museum Catalogue* (with suffix where necessary, e.g. *BMC Italy*, etc., for the appropriate volume of the *Catalogue of Greek Coins*)
BNJ	*British Numismatic Journal*
BSFN	*Bulletin de la société française de numismatique*
CENB	*Cercle d'études numismatiques. Bulletin*
CH	*Coin Hoards*
CIL	*Corpus Inscriptionum Latinarum*
CNI	*Corpus Nummorum Italicorum*
CNP	*Corpus Nummorum Palaestinensium*
CNS	*Corpus nummorum saeculorum IX–XI qui in Suecia reperti sunt*
Cohen	H. Cohen, *Description historique des médailles frappées sous l'empire romain*², 1880–92
CR	*Classical Review*
CRAI	*Comptes Rendus de l'Académie des Inscriptions et Belles-Lettres*
DOC	*Dumbarton Oaks Catalogue*
FMRD	H. Gebhart, K. Kraft, and others (eds.), *Die Fundmünzen der römischen Zeit in Deutschland*, 1960– .
HBN	*Hamburger Beiträge zur Numismatik*
*HN*²	B. V. Head, *Historia Numorum*², Oxford, 1911
IEJ	*Israel Exploration Journal*
IG	*Inscriptiones Graecae*
IGCH	M. Thompson. O. Mørkholm, and C. M. Kraay (eds.), *Inventory of Greek Coin Hoards*, New York, 1973.
ILS	H. Dessau, *Inscriptiones Latinae Selectae*
IMC	*Indian Museum Catalogue*
INJ	*Israel Numismatic Journal*
JHS	*Journal of Hellenic Studies*
JIAN	*Journal international d'archéologie numismatique*
JMP	*Jaarboek voor Munt- en Penningkunde*

The Meare Heath, Somerset, Hoard and the Coinage of Barbarous Radiates

J. A. DAVIES

[PLATES 11-12]

THIS late third century hoard was discovered in 1972 at Meare Heath, near Glastonbury, in Somerset. A report and catalogue of the contents including a list of the irregular coins, or barbarous radiates, was published in 1976 by R. A. G. Carson and R. Bland.[1] The hoard contains a total of 1,404 pieces: 385 regular coins of the period from approximately AD 260 to 274, 869 imitations, and 150 unstruck flans. The inclusion of these blanks in particular points to the importance of this hoard with regard to the production of irregular coinage.

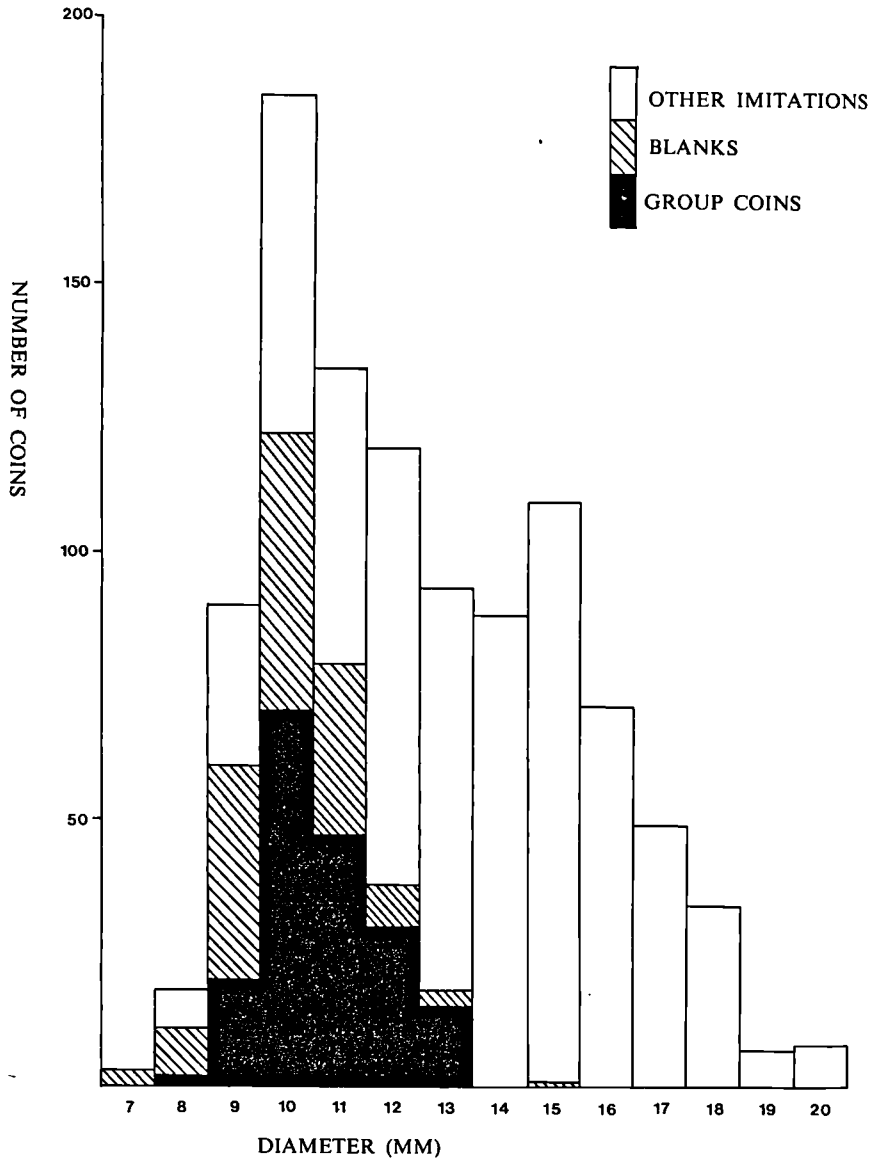
The most striking feature of the Meare Heath hoard is the wide range of coin sizes. In contrast to the diameters of the regular types, the irregular coins vary between 20 mm and 7 mm, as shown in Fig. 1. Almost half the total pieces in the hoard are of very small module; 750, including both regular and irregular items, are over 13 mm, but 650 fall into the minim category of 13 mm diameter or under. This includes all but one of the blank flans. The large proportion of small module imitations links this hoard with a number of other deposits which also contain large numbers of minims, some exclusively so, and has chronological implications for the hoard. Minims are thought to have been introduced during the reign of Probus and this proportion and quantity of smaller types suggests a date in the later 270s or early 280s.[2] Two copies are present in the hoard (**Pl. 11, 38-9**), both clearly with the letters PROB . . . on their obverses. Copies of Probus' coinage are quite rare and are thought to be a late phenomenon in the sequence of radiate copies.[3] Consequently a burial date between the years AD 280 and 283/4 is most likely.

I should like to thank the following for their invaluable advice and assistance given at various stages during the preparation of this paper: Mr R. Bland, Dr A. M. Burnett, Mr T. A. Coslett, Dr M. G. Fulford, Julie Gardiner, Professor H. B. Mattingly, Mr S. C. Minnitt. I should also like to express gratitude to the Maltwood Fund of the Royal Society of Arts, whose support enabled the successful completion of my research into this hoard.

[1] R. A. G. Carson and R. Bland, 'Meare Heath, Somerset find of Roman coins', *CH* 2 (1976), 46-51.

[2] G. C. Boon, 'The counterfeiter's deposit', in G. Wainwright (ed.), *Coygan Camp*, Cardiff, 1967, pp. 119-20.

[3] See n. 2.



THE BARBAROUS RADIATES

All the Meare Heath barbarous radiates were produced by striking, with no examples of casting having been found. The latter method is mainly

associated with earlier counterfeit coinage of the early 270s.[4] Almost all the imitations exhibit some irregularity of shape, whether in the overall size or in a clipped flan. Signs of clipping are predominant among minims and also with the blank flans, two of which are illustrated in **Pl. 11, 25, and 27**. A clipping of metal from a flan was also present, shown in **Pl. 11, 26**.

G. C. Boon has argued that minims would originally have possessed a silvery appearance and that this would have accounted for their acceptability in circulation as antoniniani.[5] As site finds, barbarous radiates very seldom still carry overt signs of silvering. Even in hoards only a small minority stand out with a silvery appearance. Upon close examination, 102 examples (12 per cent of imitations) from Meare Heath were found to have flecks of silvering on their surface, although very few are completely silvered. Others retain a white surface sheen, which may perhaps be a very thin remnant of silvering. A further 212 (25 per cent of imitations) possess black patches across their surface which may be the remains of an oxidized silver wash. Some blank flans also carry flecks of silver.

Most of the imitations in the hoard are based on Tetrican prototypes, in particular PAX AVG, SPES AVGG, LAETITIA AVGG. These designs occur in varying degrees of abstraction. In addition to the Proban copies already mentioned, rarer types include a single copy of Quintillus (**Pl. 11, 40**), while **Pl. 12, 7** shows a Jupiter reverse type of Postumus. Claudius II is well represented, and two examples of larger module are shown in **Pl. 12, 8–9**. Three INVICTVS copies of Victorinus, a popular type for copying, are illustrated on **Pl. 12, 13, 14, and 16,** showing the variety of styles which may derive from a single prototype. **Plate 12, 15** shows a much cruder copy with a reverse apparently based on the PIETAS AVGG ewer of the Tetrici, another very popular type, of which a better copy is shown on **Pl. 12, 17.**

Eight other assorted examples are illustrated on **Pl. 12. Plate 12, 18** shows a very crude face, which cannot be assigned to a particular emperor. **Plate 12, 19–25** illustrate the range of style and quality found among the smaller copies. **Plate 12, 20** is based on HILARITAS and **Pl. 12, 24** on SALVS, while **Pl. 12, 19** and **23** are too poor to identify a prototype.

THE ORIGIN OF THE HOARD

A large proportion of the minims was found to have been struck from only a few dies. Ten groups (groups A–J) have been isolated, based upon die- and style-associations.

Group A. **(Pl. 11, 1–8; 9–12)**. Seventy-three minims were found with this obverse style. Six slightly different obverse dies are used (some of these may

[4] See G. C. Boon and P. A. Rahtz, 'Third-century counterfeiting at Whitchurch, Somerset', *AJ* 122 (1966), 13–51.

[5] See n. 2.

represent a re-cut die) and four different reverse dies. The obverse always has a Tetrican portrait inside a prominent dotted border and no legend. The main obverse die, *a*, shown in **Pl. 11, 1–2,** is shared by forty-five coins, and the second variant, *b*, in **Pl. 11, 3–4,** is used by thirteen coins. Together they account for 80 per cent of group A. The other four obverse dies, used on the remaining fifteen coins, are shown in **Pl. 11, 5–8.**

Reverse 1 (**Pl. 11, 9**): 37 coins, 24 using obverse die *a* and 13 using obverse die *b*.

Reverse 2 (**Pl. 11, 10**): 21 coins, all using obverse die *a*.

Reverse 3 (**Pl. 11, 11**): 8 coins, 5 employ the obverse die as shown in **Pl. 11, 7,** and two use that shown in **Pl. 11, 8,** which is very similar to the last. One uses a Tetricus II obverse die (**Pl. 11, 6**).

Reverse 4 (**Pl. 11, 12**): 8 coins. 2 employ the obverse die as shown in **Pl. 11, 6,** two use that in **Pl. 11, 5** (also Tetricus II) and four others are uncertain.

The overall stylistic similarity between the minor obverse variations and the main type is clear.

Group B. 30 minims. The obverses are all very similar, although there is some variation. Three obverse dies are shown in **Pl. 11, 13–15.** Lack of precision in striking the coins makes exact sorting difficult within this group. The group employs just one reverse die—the same die used in group A, reverse 3, above (**Pl. 11, 11**)—proving that they come from the same workshop.

Group C. Five minims (**Pl. 11, 16**). Four obverses die-link, while one other lacks the beard. They all share the same reverse die.

Group D. 19 minims (**Pl. 11, 17**). A very sketchy engraving characterizes this group, with simple eye, nose, mouth, and beard. All employ a single obverse and reverse die. The FIDES MILITVM reverse is much clearer and more precise than reverse engravings of other groups.

Group E. Seven minims (**Pl. 11, 18**). Again a perfunctory engraving on each side. Same obverse and reverse dies used throughout. A very similar obverse to group D.

Group F. Nine minims (**Pl. 11, 19**). Single obverse and reverse dies used. The obverse is very similar to that used in the previous two groups, while the reverse is struck from the same die used in group D.

Group G. 32 minims (**Pl. 11, 20**). 28 coins share the same obverse and reverse dies. The obverse has a pronounced cheekbone and snub-nose, while the reverse shows a delicate female figure. There are four coins which vary slightly from the main group. The coins in this group are characterized by a yellowy brass colour.

Group H. Three coins (**Pl. 11, 21**). All are obverse and reverse die-duplicates, using a crude linear engraving on both faces.

Group I. These two coins, shown in **Pl. 11, 22–3,** are not die-linked but their reverses show close similarity to group A, reverse 1, and clearly come from the same workshop (the letters C and AT are found on group A reverse 1, which is a hallmark of their common origin). Their obverses are very different.

Group J. Three coins (**Pl. 11, 24**). Obverses die-link, with just a radiate crown visible of the engraving. The reverses are faint, carrying geometric shapes, and are similar but do not die-link.

Altogether these groups account for 184 coins, that is 21 per cent of all the imitations. The degree of die-linking between different groups and the closeness of style between several of them suggests a common origin for this portion of the hoard. These examples are unworn and uncirculated, and probably originate from the same source as the 150 blank flans, which share a similar range of module (see Fig. 1, which shows the clustering of coins from groups A–J against the complete range of imitation sizes present). A local origin is most likely since once they entered circulation, die-linked groups of

TABLE 1

Summary of die-group coin sizes

Diameter	*Group A, Rev. 1*	*Rev. 2*	*Rev. 3*	*Rev. 4*	*All Group A*
13 mm	2	1	2	—	5
12 mm	5	4	3	1	13
11 mm	9	9	3	2	23
10 mm	16	6	—	5	27
9 mm	5	1	—	—	6
TOTAL	37	21	8	8	74

Diameter	*Group B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*
13 mm	6	1	—	—	—	2	1	—	—
12 mm	12	1	—	—	—	3	—	—	1
11 mm	5	2	3	2	—	7	2	1	2
10 mm	7	1	11	4	6	14	—	—	—
9 mm	—	—	4	—	3	6	—	1	—
8 mm	—	—	1	1	—	—	—	—	—
TOTAL	30	5	19	7	9	32	3	2	3

TABLE 2

Summary of die-axes

	↑	↖	↖	←	↙	↙	↓	↘	↘	→	↗	↗
Group A, *Rev.* 1	4	1	2	3	1	3	5	2	3	5	4	2
Group A, *Rev.* 2	—	2	1	3	6	1	3	3	—	—	1	1
Group A, *Rev.* 3	—	1	1	2	—	1	—	2	—	—	—	—
Group A, *Rev.* 4	3	—	1	—	1	1	1	—	—	—	—	—
TOTAL	7	4	5	8	8	6	9	7	3	5	5	3
Group B	Not possible to define from rev. engraving											
Group C	1	—	1	—	—	1	—	—	—	—	1	—
Group D	1	—	3	2	—	1	2	1	1	1	3	3
Group E	—	1	1	—	2	—	—	—	—	—	—	1
Group F	2	—	—	1	1	—	1	—	—	—	1	2
Group G	1	1	9	—	—	—	1	1	3	2	4	9
Group H	—	—	—	—	—	—	—	—	—	1	2	—
Group I	—	1	—	—	—	1	—	—	—	—	—	—
Group J	Reverses are too unclear to tell											

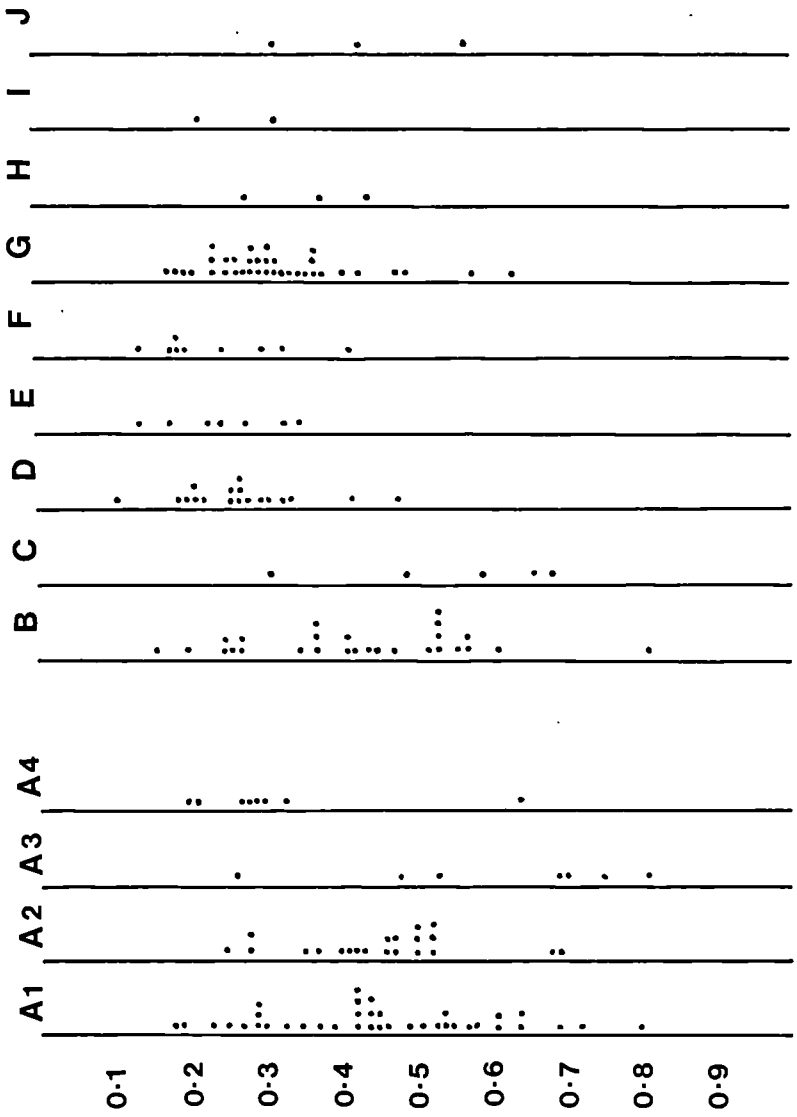
barbarous radiates quickly became dispersed.[6] Other minims in this hoard are likely to have been struck at the same location, but with such small coins carrying little detail—and in the absence of further die-linking—this is difficult to prove. The absence of wear on *all* the irregular coins suggests that many more came from the same source. The standard of die engraving as a whole shows more attention to detail and clearer definition than, for instance, within the recently published hoard from Sprotbrough, south Yorkshire.[7]

A lack of precision in the preparation and striking of flans is apparent. The weights and die axes of group coins have been recorded in order to determine whether there was any attempt to impose order within an irregular mint. These are shown in Tables 1-2 and in Fig. 2. All of the group coins range between 13 mm and 8 mm, with members of groups D, E, and F exhibiting a tighter range of smaller modules (see Table 1). The weights shown in Fig. 2 reflect the range of diameters within the groups, with a spread of values out of keeping with a desire for precision or adherence to a weight standard. The die

[6] This is evident from the study of site finds of these coins. See the forthcoming Ph.D. thesis: J. A. Davies, '*The Coinage of Barbarous Radiates in Southern England*', Reading University.

[7] H. B. Mattingly and M. J. Dolby, 'A hoard of barbarous radiates and associated material from Sprotbrough, south Yorkshire', *NC* 142 (1982), 21-33.

axes of these minims, shown in Table 2, indicate a random range of alignments. It may be safely concluded that there was no desire to adhere to a strict standard in the production of these coins.



WEIGHT (GRAMMES)

FIG. 2.

EXTERNAL LINKING AND THE PRODUCTION OF RADIATE MINIMS

Twenty-eight coins die-link to, or are members of style-groups of, barbarous radiates from other locations. H. B. Mattingly originally recognized a Midlands–Sussex group of imitations characterized by the PAX AVG reverse type.[8] He identified examples in the Calverton (Nottinghamshire) and Worthing, Goring, and Hove (all Sussex) hoards. The present author has identified individual examples among southern English site-finds, including eight at Richborough (Kent).[9] The Meare Heath hoard contains seven of this group. Four obverses are illustrated on **Pl. 11, 28–31,** and three reverses, on **Pl. 11, 32–4.**

The other major barbarous radiate group established by H. B. Mattingly is that characterized by a V-shaped neck and angular portrait, coupled with an INVICTVS or ewer reverse.[10] Examples of this group were found in the Worthing, Lightwood (Staffordshire), and Calverton hoards. They also occur on most large sites in southern England and nine examples are present at Meare Heath (**Pl. 12, 1–6**).[11] The obverses of numbers 1–4 are very typical, while variants 5 and 6 are less common.

Other types are also related to Sussex hoard coins. **Pl. 11, 41–3,** are three copies of Tetricus II sharing a very close obverse style, with straight linear features and dotted eye. Examples of this group occur in both the Hove and Goring hoards, which also employ the same reverse used by number 43 here. The Quintillus copy in **Pl. 11, 40,** is also a type present in the Worthing hoard, where there are some twelve examples.

The coin shown in **Pl. 11, 35** die-links with the obverse of a coin from the Richborough (1931) hoard.[12] Finally six coins, two of which are shown in **Pl. 11, 36–7,** possess very similar obverses to a large group present in the Paternoster Row hoard from London.[13]

It appears from these external links that a nucleus of Meare Heath imitations originated from further afield. Mattingly has argued that the PAX AVG and INVICTVS/Ewer groups came from a Midlands mint although, in the case of the latter group, copies of these copies (also employing the same basic characteristics) were undoubtedly struck at other centres across the

[8] G. D. Lewis and H. B. Mattingly, 'A hoard of barbarous radiates from Mill Road, Worthing', *NC*[7] 4 (1964), 198–9.

[9] J. A. Davies, 'The barbarous radiates from Richborough', *BNJ* 52 (1982), 20–1.

[10] For a description of this group, see ref. in note 8, and H. B. Mattingly, 'A hoard of "barbarous radiates" from Goring-on-Sea', *Sussex Archaeological Collections* 105 (1967), 60, with accompanying illustration.

[11] Examples from the sites have been identified by the author, see n. 6.

[12] Compare H. B. Mattingly and W. P. D. Stebbing, 'The Richborough hoard of "radiates", 1931', *NNM* 80 (1938), Pl. 13, 7.

[13] H. B. Mattingly, 'The Paternoster Row hoard of "barbarous radiates"', *NC*[7] 7 (1967), 61–9.

country.[14] These external links are almost all larger coins than the 184 imitations suggested here to be of west country origin, none of which exceed 13 mm in diameter.

Despite the amount of intensive fieldwork and excavation in Britain there is very little archaeological evidence for the production of barbarous radiates. Although a multiplicity of types and styles are to be seen in every site collection and in hoards, representing the output from tens of thousands of dies, not one single die has yet been identified. Our evidence for production comes from two sources; from the process of using moulds and from deposits of these coins associated with blanks, metal scraps and tools of manufacture. This evidence is summarized in the Map on p. 116.

The importance of the Meare Heath hoard becomes apparent in view of this overall shortage of manufacturing evidence. It also serves to reinforce a pattern observed in the distribution of similar deposits of a bias towards the west country and south Wales and away from the south-eastern part of Roman Britain—the area administered by the *civitates*.[15] Those deposits with evidence of manufacture are almost exclusively found on the edge of that area, supporting Mattingly's argument for an irregular mint situated between Calverton and Lightwood in the Midlands.[16]

Hoards containing a substantial proportion of minims were buried throughout Roman Britain but the majority seem to be associated with the less-densely inhabited parts of the province. Only six such hoards have been recovered in the south east; three of these were found near to each other on the Sussex coast and are closely associated by die-linked groups and common types.[17] The distributional bias of minim hoards away from the south east becomes more apparent when the overall picture of Roman hoard deposition in Britain is compared. Most Roman hoards occur in the lowland zone south of the Pennines and east of the River Severn, as illustrated, for example, by the distribution of Tetrican hoards.[18] Barbarous radiate hoards which *do not* contain minims and which have been dated to the mid-270s are almost completely restricted to the south and east of Britain and do not occur in those more remote areas of the province associated with minim hoards.

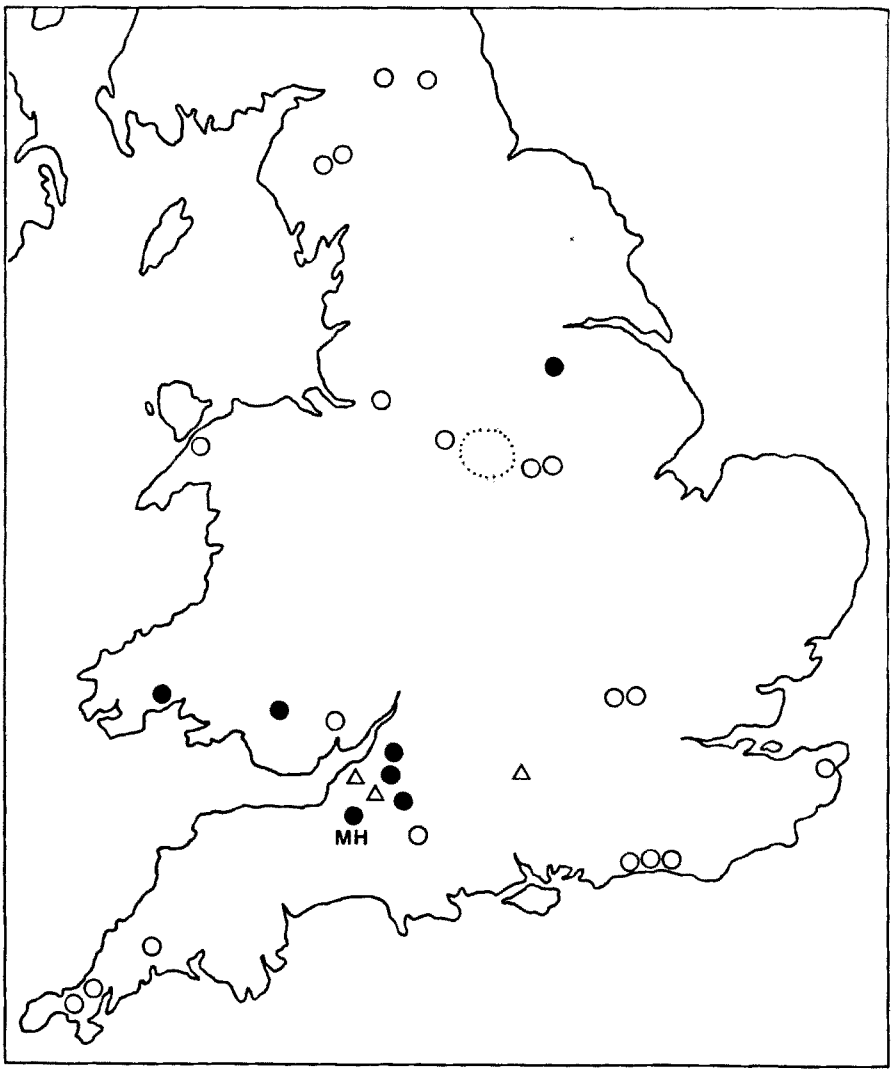
[14] One such regional group has been associated with the area to the east of Verulamium. See J. A. Davies, 'The barbarous radiates', in *The Coins from Colchester*, Colchester Archaeological Report 4 (1986).

[15] Contrast the distribution shown in map 1 with the locations of tribal centres, as shown on the *Map of Roman Britain*, 4th edn., (Ordnance Survey, Southampton, 1978).

[16] H. B. Mattingly, 'The Lightwood hoard and the coinage of "barbarous radiates"', *North Staffordshire Journal of Field Studies* 3 (1963), 22.

[17] These three Sussex hoards are from Worthing (see n. 7), Goring (see n. 9) and from Hove—see H. Mattingly, 'The Hove radiate hoard', *Sussex Notes and Queries* 7 (1938–9), 234–9.

[18] A. S. Robertson, 'Romano-British coin hoards; their numismatic, archaeological and historical significance', in J. Casey and R. Reece (eds.), *Coins and the Archaeologist*, BAR 4 (1974), 30.



MAP 1. Location of minim hoards and evidence for barbarous radiate production.

KEY

○ Minim hoard
● Production evidence
△ Moulding evidence
⬚ Suggested mint location

Minim hoards were deposited from the late 270s to *c.*283–4 and a number have been associated with the very last phase of this coinage, specifically with the concept of a final suppression of them, as diagnosed and discussed by both Boon and Mattingly.[19] The locations of these later hoards indicate that the small module coinage continued in use in the west and north of Britain for some years after it had ceased to be used in the south east. Minims were, however, certainly used in all areas. They are consistently found as site finds, as well as in hoards, right across the south. It is not yet clear whether there is in fact any significant increase in their proportion outside the south east, as hoard evidence alone would suggest, although a slight predominance may be detectable in the west generally. A comparison of the proportion of minims present between sites in all areas, which takes into consideration such factors as excavation techniques and coin recovery methods, is necessary in order to provide us with a better understanding of their use and function.

Giard has shown that barbarous radiate production in Gaul was under way by AD 263, considerably earlier than can be argued for Britain.[20] It is likely that the earliest production was associated in some way with the regular mint personnel at Trier and Cologne and that the first imitations used in Britain originated from the continent.[21] An increasing number of die-links are coming to light between continental and British hoards dated to the early and mid-270s, reflecting the common mintage of coin used on both sides of the Channel at this time.[22] Hoard evidence shows that these early barbarous radiates were used in the south east. However, the earliest irregular radiate production in Britain itself is associated with the moulding process, for instance at Whitchurch and Clevedon (both in Somerset), with no such evidence coming from the south east.

Fewer examples of cross-Channel linking among hoards of the late 270s and early 280s suggests that more of this coin was being produced in Britain at this time.[23] Evidence from die- and style-linking in both hoard and site contexts confirms that barbarous radiates were being struck locally throughout much of the country during the main years of the epidemic. However, the evidence overall suggests that the west country was the main production area for irregular radiate coinage in Britain. It shows a tradition of irregular coin production in the Avon, Somerset, and south Wales area which continued from the earliest to the latest British radiate copies, with production at many

[19] For discussion of a suppression, see G. C. Boon, op. cit. in n. 2, and H. B. Mattingly, op. cit. in n. 7.

[20] J.-B. Giard, 'La monnaie locale en Gaule à la fin du III^e siècle, reflet de la vie économique', *Journal des Savants* (1969), 5–34.

[21] E. Besly and R. Bland, *The Cunetio Treasure* (1983), p. 69.

[22] Work by the author, see n. 6.

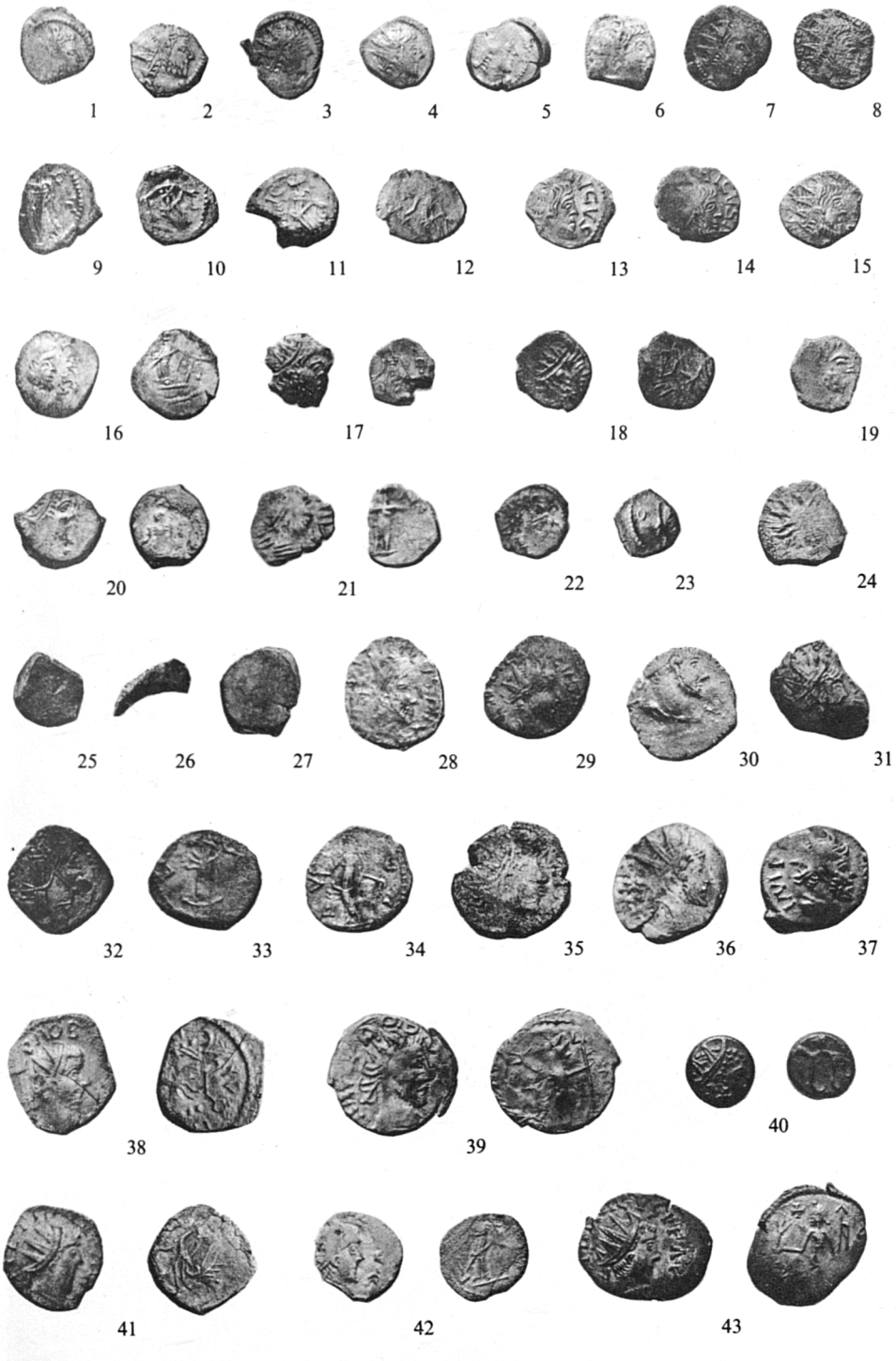
[23] J. A. Davies, 'Barbarous radiates—some new examples of continental linking' (*in preparation*).

small centres in this region and away from the authorities of the large towns in the south east.

There are two considerations which may help to explain the location of irregular mints in the west country. Firstly, the distance from the main towns would have facilitated production at both the beginning and end of the epidemic when central authorities would have been attempting to stamp out unofficial production. Secondly, the Avon and Somerset region would have been the most convenient location to make use of native and metal ores. Tin was mined from Devon and Cornwall and copper from Cornwall and Wales and both are likely to have been used in the production of these bronze coins.

Note on Plate 11

Group A obverses - nos. 1–8. Group A reverses 1–4 - nos. 9–12. Group B – nos. 13–15. Group C – no. 16. Group D – no. 17. Group E – no. 18. Group F – no. 19. Group G – no. 20. Group H – no. 21. Group I – nos. 22–3. Group J – no. 24.



DAVIES, MEARE HEATH HOARD (1)

PLATE 12

DAVIES, MEARE HEATH HOARD (2)

ABBREVIATIONS

JNG	*Jahrbuch für Numismatik und Geldgeschichte*
JNSI	*Journal of the Numismatic Society of India*
JRAS	*Journal of the Royal Asiatic Society*
JRS	*Journal of Roman Studies*
LRBC	R. A. G. Carson, P. V. Hill, and J. P. C. Kent, *Late Roman Bronze Coinage*, 1962
MIB	W. Hahn, *Moneta Imperii Byzantini*, Vienna, 1973-
MIN	*Metallurgy in Numismatics*
NC	*Numismatic Chronicle*
NCirc.	*Numismatic Circular*
NE	*Numizmatika i epigrafika*
NK	*Numizmatikai Közlöny*
NNÅ	*Nordisk Numismatisk Årsskrift*
NNM	*Numismatic Notes and Monographs*
NNUM	*Nordisk Numismatisk Unions Medlemsblad*
NZ	*Numismatische Zeitschrift*
ONS	Oriental Numismatic Society
PBSR	*Papers of the British School at Rome*
PIR	*Prosopographia Imperii Romani*
PLRE	A. H. M. Jones and J. R. Martindale, *The Prosopography of the Later Roman Empire*, Cambridge, 1971 ff.
PSAS	*Proceedings of the Society of Antiquaries of Scotland*
QT	*Quaderni ticinesi di numismatica e antichità classiche*
RA	*Revue archéologique*
RBN	*Revue belge de numismatique*
RE	Pauly-Wissowa-Kroll, *Real-Encyclopädie der classischen Altertumswissenschaft*
RIC	H. Mattingly, E. A. Sydenham, and others, *The Roman Imperial Coinage*, 1923-
RIN	*Rivista italiana di numismatica*
RN	*Revue numismatique*
RRC	M. H. Crawford, *Roman Republican Coinage*, Cambridge, 1974
RRCH	Id., *Roman Republican Coin Hoards*, 1969
SBAW	*Sitzungsberichte der Bayerischen Akademie der Wissenschaften, Phil.-Hist. Klasse*
SCBI	*Sylloge of Coins of the British Isles*
SCN	*Studii şi cercetări de numismatica*
SM	*Schweizer Münzblatter*
SNG	*Sylloge Nummorum Graecorum* (with suffix as necessary, e.g. *SNG (Cop.)*)
SNR	*Schweizerische Numismatische Rundschau*
TLL	*Thesaurus Linguae Latinae*
TMP	*Tijdschrift voor Munt- en Penningkunde*
TNRB	*Thesaurus Nummorum Romanorum et Byzantinorum*
WN	*Wiadomości Numizmatyczne*
ZDMG	*Zeitschrift der Deutschen morgenländischen Gesellschaft*
ZfN	*Zeitschrift für Numismatik*
ZPE	*Zeitschrift für Papyrologie und Epigraphik*

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A HOARD OF 'RADIATE' COINS FROM ALLINGTON

JOHN A. DAVIES, B.A.

This small hoard was found in 1907, at a location cited as 'near Allington Castle, between the railway and river (Medway)', near Maidstone. The coins are now in Maidstone Museum. The only previously published report is three lines in VCH (Kent), iii (1932), 144, describing the find of 'a small bulbous beaker (date 250–300 A.D.) which contained 22 "small brass" coins of Tetricus, several of which are barbarous (? Gaulish) copies'. Re-examination of this hoard has allowed a new assessment in the light of current research. The ceramic beaker, which remains intact, is discussed separately below.

The hoard contains five official coins of the period A.D. 268–276. The Central Empire is represented by just two, one of Claudius II (A.D. 268–70) and one of Florian (A.D. 276). The other three are coins of the Gallic Empire, all of Tetricus II. The remaining 17 coins are all barbarous radiates, copies of official coins of the period A.D. 260–74. A distinctive feature of the hoard is that these are copies of Gallic Empire types only. Several of the Tetricus I coins are extremely good, accurate copies, although others are more typically degraded and stylised types. Four of the coins have a reduced module of *minim* classification (under 12 mm. diameter). The composition of the Allington hoard is of interest in the wider context of the study of the barbarous radiate coinage.

A complete understanding of this 'unofficial' coinage still awaits more detailed research, but its historical context is secure. Debasement of the coinage in the third century reached its nadir under Gallienus and Claudius II, and it was the base metal *antoniniani* of this period that were copied in large numbers. Both Central Empire and Gallic Empire coins were copied, ranging from the late issues of Gallienus (notably his animal reverse types) and Claudius II,

through to Probus.[1] All Gallic Emperors were represented, but most common were copies of Tetricus I, followed by Tetricus II and Victorinus. This coinage circulated most profusely during the period between the fall of the Gallic Empire (A.D. 273) and the British Empire in A.D. 287, although some did continue in use much later.

The term 'barbarous radiate' embraces a wide range of copies, from closely copied counterfeit coins of correct size, as evidenced at Whitchurch,[2] to very poor stylised types and *minims* that would not have been mistaken for their prototypes. Mr. G.C. Boon has outlined a chronological scheme embracing a gradual decline in standard and in size.[3] The best counterfeit types are placed contemporary with their prototypes, from A.D. 270–74, with a reduction in module occurring about A.D. 275. *Minims* are introduced in the scheme not before the reign of Probus, at about A.D. 276, continuing in production until A.D. 282–84.

CATALOGUE

Official coins

	CENTRAL EMPIRE		RIC
	Claudius II		
1.	IMP CLAVDIVS AVG	MARS VLTOR	67
	Florian		
2.	IMP C FLORIANVS AVG	AEQVITAS AUG	25
	GALLIC EMPIRE		ELMER
	Tetricus II		
3.	C PIV ESV TETRICVS CAES	SPES PVBLICA	769
4–5.	Illegible		

[1] For evidence of Proban copies see H.B. Mattingly, 'A Hoard of barbarous Radiates from Goring-on-Sea', *Sussex Arch. Coll.*, cv (1967), 56–7 and G.C. Boon, 'The Counterfeiter's Deposit' in G. Wainwright, *Coygan Camp*, (1967), 116–26.

[2] G.C. Boon and P.A. Rahtz, 'Third-century Counterfeiting at Whitchurch, Somerset', *Arch. Journ.*, cxxii (1966), 13–51.

[3] G.C. Boon, *op. cit.*, in note 1.

Radiate Copies

GALLIC EMPIRE

Postumus

6.	Salus Aug	17 mm. ↘

Victorinus

7.	Salus Aug	16 mm. ↗

Tetricus I

8–11.	Pax Aug, vertical sceptre	15 mm. ↙ 17 mm. ↑ 17 mm. ↓ 14 mm. ↑
12.	Pax Aug, transverse sceptre	15 mm. ↙
13.	Laetitia Augg	15 mm. ↑
14.	Salus Aug	17 mm. ↑
15–16.	Illegible	15 mm. 16 mm.

Tetricus II

17–18.	Spes Aug	14 mm. ↘ 13 mm ↖

Illegible *minims*

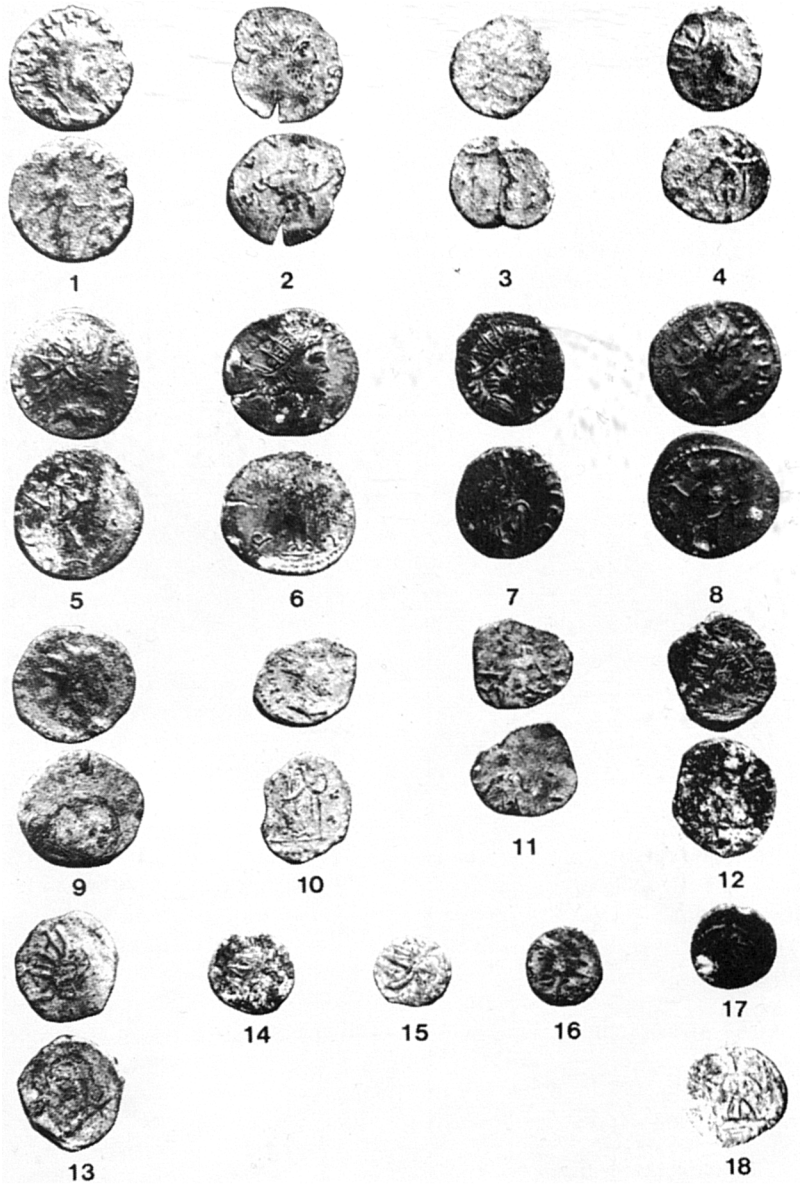
19–22.		11 mm. 10 mm. 10 mm. 11 mm. ↖

22 TOTAL

The Allington hoard belongs to a group of over 110 Roman hoards which include radiate copies in varying proportions. Two-thirds of these hoards appear to have been deposited over a short span of about ten to fifteen years. The distribution of these hoards is mainly to the south and east of Britain, below a line drawn between the River Humber and the Gower Peninsula. Concentrations of hoards occur in East Anglia and in southern coastal parts, most notably around the Severn Estuary and the Sussex coast. There are two other published hoards from north Kent containing radiate copies. The Gillingham (1907) hoard contained 722 coins, but mainly fourth-century types, with just six radiate copies.[4] The nearest and most comparable hoard is from Hollingbourne, now in

[4] VCH (Kent), iii (1932), 155; *Arch. Cant,* xxviii (1909), xcii–xciv.

PLATE I



The radiate Copies from the Allington Hoard. No. 1 Postumus: Salus Aug; no. 2, Victorinus: Salus Aug; nos. 3–4, Tetricus II, both Spes Aug; nos 5–13, Tetricus I: 5, 6, 9–13, Pax Aug; 7, Laetitia Augg; 8, Salus Aug; nos. 14–17 *Minims*; no. 18 *Minim* from Silchester Hants.

Maidstone Museum.[5] Of 5,357 coins from Hollingbourne just 7 per cent are radiate copies but these 365 coins exhibit a similar range of types as are present at Allington despite the large numerical difference.

Hollingbourne, like Allington, has a lack of Central Empire copies, with just nine examples (2.5 per cent of the copies). The most common reverse type at Hollingbourne is *Pax,* forming 23.6 per cent of copies and at Allington it is 29.4 per cent. The other most common types represented at Hollingbourne are Tetrican *Spes* and *Salus* types (approximately 14 per cent each) which are similarly the second most common at Allington (both 11.8 per cent). These reverse types are also among the most common present on most sites and in hoards generally. A difference in the nature of the two hoards becomes apparent with the smaller coins, notably *minims*, of Allington which are absent from the larger hoard. The degree of wear on the Allington coins confirms that they represent a sample withdrawn from normal circulation, whilst the Hollingbourne hoard represents a selection of better coins, of larger module and high proportion of official coins, forming a store of wealth.

There is no die-linking between the two hoards, or with the small number of local site-finds present at Maidstone Museum. Neither is there internal die-linking at Allington although this is less surprising in so small a hoard. However, close comparison with Hollingbourne coins does reveal a very similar style of portraiture, especially with coins 5, 6, 7 and 8, on Plate I, which also compare well in size and regular shape.

A further stylistic similarity involves the reverse of coin 17 on Plate I which is comparable to a very distinctive site find from Silchester, Hants. (Plate I, coin 18). Both are *minims*, lacking legend, showing a very stylised female figure who is holding a staff to the left. Such a link over a distance of 65 miles is not unusual in the light of die-links and style-links recorded by Professor H.B. Mattingly.[6] It would suggest some aspect of minting in common. The absence of any die-linking reflects the overall profusion of this coinage and the range and diversity of types suggest widespread minting.

Most of the Allington radiate copies approach the average size of

[5] R.A.G. Carson, 'Hollingbourne Treasure Trove', *Num. Chron.*, 7th series, i (1961), 211–23.

[6] H.B. Mattingly, *op. cit.*, in note 1, and 'The Lightwood Hoard and the Coinage of barbarous Radiates', *North Staffs. Journ. of Field Studies*, iii (1963), 19–36.

the official coins of this period, while the *minims* form a distinct group of their own (see Fig. 1). The die-axes are also distinctive. Within this unofficial coinage as a whole there was no overall attempt to emulate the 0° or 180° die-axis of the official coinage. In fact the arbitrary die-axes are a symptom which helps to diagnose coins as copies. However, in the nine coins of Tetricus I at Allington, only six of which are well enough preserved to record their die-axes, four are 0° and one is 180°. These include the best copies, four of which are very good. All of the other Allington coins have arbitrary die-axes.

This precision of die-axis, as well as diameter, good obverse portrait and well-engraved reverse, links coins 5, 6, 7, 8 and 9. Similarly numbers 10, 11 and 12 can be grouped together both by size and by their crude angular busts of Tetricus I; and numbers 10 and 11 also by their reverses. Such groupings would suggest a common mint, probably shared with part of the Hollingbourne hoard in the former case, on stylistic grounds.

With a total absence of archaeological evidence for manufacture in the south-east the nearest speculated unofficial mints are London,[7] southern Sussex[8] and at Richborough[9] based on profusion of die-linking within and between hoards. Known axes of contact with Kent coins are shown by two hoard coins. One example from Hollingbourne links closely in style with another from the Newgate Street hoard London and with a stray find from the Verulamium Theatre.[10] The second case involves a Richborough coin which links stylistically to the hoards from Calverton (Notts.) and Mill Road, Worthing.[11] However, distinctive local features, as shown at Allington and in many other areas, suggest that these coins would have been struck on a local basis, resulting in the local styles and traits presented.

The date of the container (see below) is in keeping with the circulatory date of this coinage. All 22 coins display a degree of wear which would suggest a period of circulation before burial. It is

[7] R. Merrifield, 'The Lime Street (1952) Hoard of barbarous Radiates', *Num. Chron.*, 6th series, xv (1955), 113–24.

[8] H.B. Mattingly, *op. cit.*, in note 1.

[9] H. Mattingly and W.P.D. Stebbing, 'The Richborough Hoard of Radiates' *American Numismatic Soc.*, Notes and Monographs, lxxx (1938), 1–118. Internal die-linking is numerous enough to suggest some local minting.

[10] H.B. Mattingly 'The Paternoster Row Hoard of barbarous Radiates' *Num. Chron.*, 7th series, vii (1967), 66–7.

[11] H.B. Mattingly *op. cit.*, in note 10.

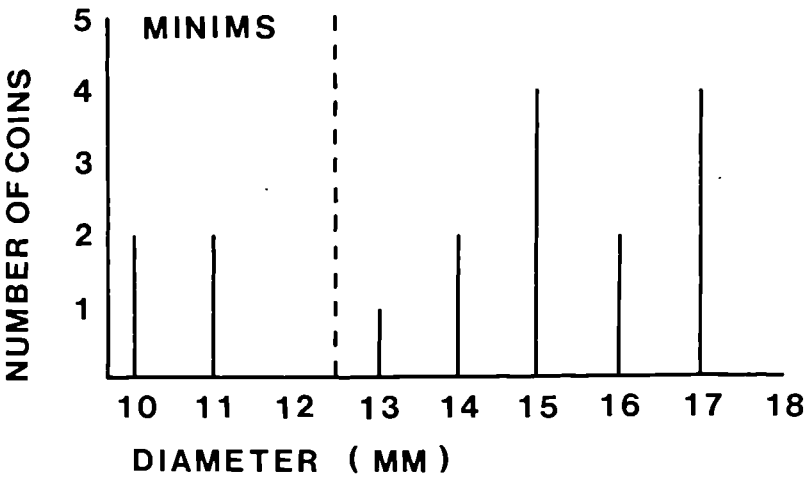


Fig. 1.

significant that the different sizes of coins present can be seen to have circulated together, all being withdrawn from circulation at the same time. This interesting hoard, comprised of coins of everyday use and of low intrinsic value, as opposed to a savings or treasure hoard, reflects the coinage circulating in the area at a date of *c.* A.D. 276–287. The absence of Proban *minims* and other later copies would suggest a date of about A.D. 280 and not the latter end of this period. The importance of his hoard is that it shows unofficial coins of varying quality and size, including *minims*, circulating together alongside the official coinage, as part of the same circulatory pool, in the period preceding the final phase and repression of radiate copies.[12]

[12] For evidence relating to a final repression of this coinage, see G.C. Boon, *op. cit.*, in note 1, and 'A Roman Counterfeiter's Den', *Proc. of the Univ. of Bristol Spelaeological Soc.* (1972), 70–82. Also H.B. Mattingly 'The Sprotbrough Hoard of barbarous Radiates', *Num. Chron.*, 141 (1982), 21–30.

ACKNOWLEDGEMENTS

Thanks are due to Mr. D.B. Kelly of Maidstone Museum for his encouragement in writing this paper and for making available to me the Hollingbourne hoard and other Kent coins for comparison. I should also like to thank Professor H.B. Mattingly for his invaluable comments on an earlier draft of this paper, although the author wishes to absolve him from the conclusions and emphases present in this work; and Julie Gardiner for her comments and help in preparation.

THE CONTAINER

Richard J. Pollard, B.A.

The vessel is a 'bulbous beaker' with conical-restricting neck, everted rim, slightly angled shoulder and pedestal foot. It is in a wheel-thrown, medium-sandy grey ware with smoothed surfaces, possibly coated with a matt, pale, neutral slip (abraded). Form and fabric are exactly paralleled by Ospringe 57 and 110[13] and by a vessel from Aylesford.[14]

The type is one of a variety of necked 'bulbous beaker' types manufactured in colour-coated, white and grey wares both in Britain and Gaul from the late second- to the fourth/early fifth centuries. Specific grey ware parallels in Britain include Oxfordshire,[15] ?New Forest[16] and ?Colchester area[17] products, but the Allington vessel is most likely to be a product of the lower Thames 'BB2/grey ware' industries.[18] Grey ware 'bulbous beakers' are widespread in Kent; the angled-shoulder, sandy ware type represented here may be dated to the third to mid-fourth centuries within this county, but later vessels may occur in other parts of Britain. The Allington vessel was thus interred during the *floruit* of its type.

[13] W. Whiting, W. Hawley and T. May, *Excavations of the Roman Cemetery at Ospringe, Kent*, Rep. Res. Comm. Soc. Antiq. London, viii (1931).

[14] Unpublished; Maidstone Museum register, VII 1920.

[15] C.J. Young, *Oxfordshire Roman Pottery*, BAR 43, (1977). Form R30.

[16] M.G. Fulford, *New Forest Roman Pottery*, BAR 17, (1975). Grey Ware Type 2.

[17] M.R. Hull, *The Roman Potters' Kilns of Colchester*, Rep. Res. Comm. Soc. Antiq. London, xxi, (1963). Form 395.

[18] Cf. vessels from the pottery dump at Cooling, (inspection by kind permission of Mr. A. Miles); from Mucking, M.U. Jones and W.R. Rodwell 'The Romano-British Pottery Kilns at Mucking', *Essex Arch. and Hist.*, series 3, v (1973), 13–47. Type R; and wasters from the Upchurch Marshes, I. Noël Hume 'Romano-British Potteries on the Upchurch Marshes', *Arch. Cant.*, lxviii, (1954), 72–90, Fig. 3, nos. 4 and 5.

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VOLUME L
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The Roman Coins from Lowbury Hill

By J. A. DAVIES

SUMMARY

In 1916 D. Atkinson published his excavations at the Romano-British site on Lowbury Hill, carried out between 1913 and 1914.[1] *His report included a full description of 873 coins recovered from the site. It appeared some years before the first volume of Mattingly and Sydenham's* Roman Imperial Coinage, *which was published in 1923.*[2] *Now, an opportunity to re-examine the Lowbury Hill coins has enabled the completion of a revised coin list, in accordance with the recently completed* R. I. C. *series. It is accordingly presented as a large rural site group to provide a source of comparison for other Romano-British assemblages. Such a reappraisal will also serve to revive discussion regarding the interpretation of this site, which has remained ambiguous.*

THE SITE

Lowbury Hill lies at the eastern end of the Berkshire Downs, 4½ miles WNW of Goring-on-Thames, just within the county of Oxford. It is located on an exposed hill-top, over a mile away from the nearest water supply, and is positioned away from known Roman roads. The main feature on the hill-top is a rectangular earthwork, where the main excavation took place. Two barrows and a circular depression outside the earthwork were also investigated by Atkinson. The earthwork enclosure yielded 758 coins. The Saxon barrow, which is situated immediately outside the enclosure gateway on the eastern side, was also trenched and a further 115 coins recovered. Four coins 'found near Lowbury' have also been re-identified but the coins originally noted to be in private possession have not been considered here.

THE COINS

The coins were re-studied at first hand, in conjunction with the descriptions provided by the original author. They have been allocated *R. I. C.* numbers and, in the case of the Gallic Empire, numbers according to Elmer's scheme.[3] In order to facilitate comparison with other sites, the coins have also been separated into issue periods.[4] A summary list is set out below and the complete catalogue is printed at the end of the paper.

A large number of irregular 3rd- and 4th-century coins are present, and these are listed separately within the main catalogue. They have been re-sorted between regular and

[1] D. Atkinson, *The Romano-British Site on Lowbury Hill in Berkshire* (1916).

[2] H. Mattingly and E. A. Sydenham, *Roman Imperial Coinage*, i (1923).

[3] R. I. C. – H. Mattingly, E. A. Sydenham, C. H. V. Sutherland and R. A. G. Carson, *Roman Imperial Coinage*, i–ix (1923 ff.); G. Elmer, 'Die Münzpragung der Gallischen Kaiser in Köln, Trier und Mailand', *Bonner Jahrbucher*, cxlvi (1941), 1–106.

[4] R. Reece, 'A Short Survey of the Roman Coins found on Fourteen Sites in Britain', *Britannia*, iii (1972), 269–76.

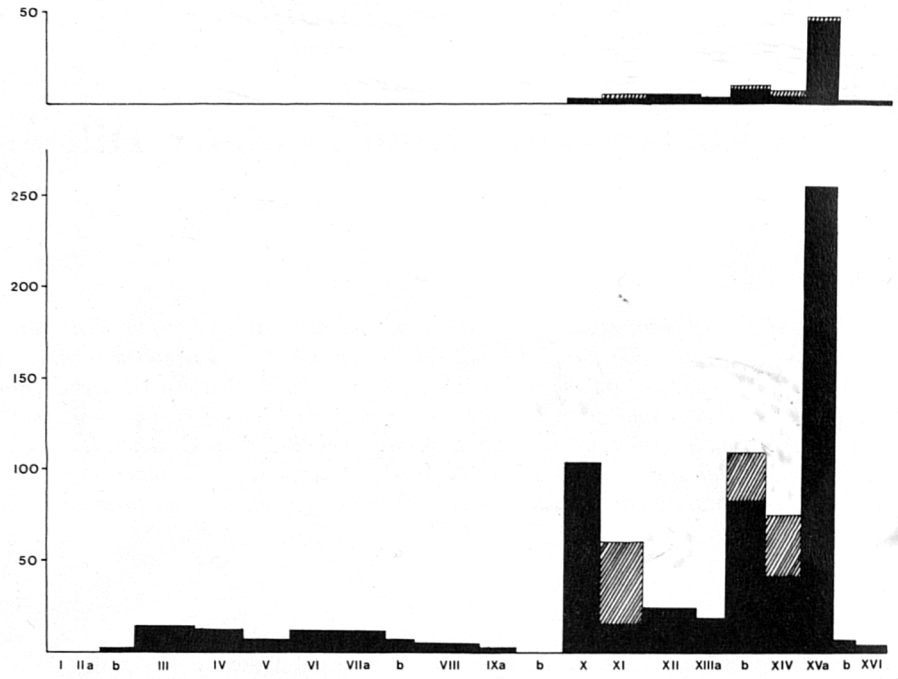

Fig. 1. Coin loss per period. Diagonal shading indicates irregular coinage. Numbers against the vertical axis indicate the actual number of coins.

irregular categories in the light of modern opinion on the subject and the numbers given differ from those of Atkinson. The barbarous radiates have been assigned to period XI (A.D. 275–94), when they were in circulation.[5]

The size of the combined Lowbury assemblage is large for a rural site. 115 coins from trenching a barrow is especially high but does not represent a hoard, both because of the chronological spread of the coins and because of the even distribution of these finds throughout the barrow, alongside other Roman artefacts including roof-tiles, oyster-shells and coarse pottery. These objects are all similar to material recovered from the adjacent enclosure, indicating the source of earth used in the construction of the barrow.

Coin loss at Lowbury Hill is shown in Fig. 1. Although pre-Roman occupation at the site is stated in the report, the coin list begins with two coins of Nero. The histogram compares quite well with Reece's mean value for British rural sites, with an exception in period XVa, where the total is much higher than for other rural sites.[6] This is a trait also recorded at the religious site of Nettleton.[7] This peak does not appear to be caused by the presence of a dispersed hoard and it is also present in the histogram for the barrow coins. The coin total in period XVI, the final years of Roman rule, is very low, with just four coins. This is a very large coin list for an ordinary small farming settlement.

[5] Ibid. 273.

[6] R. Reece, 'Religion, Coins and Temples', *Temples, Churches and Religion in Roman Britain*, ed. W. Rodwell, B.A.R. 77 (1980), 115–28.

[7] R. Reece, op. cit. note 4.

TABLE 1

Period		Enclosure	Barrow	Found near Lowbury
I	to A.D. 41	0	0	0
IIa	A.D. 41–54	0	0	0
IIb	54–69	2	0	0
III	69–96	13	0	0
IV	96–117	12	0	0
V	117–138	7	0	0
VI	138–161	11	0	0
VIIa	161–180	11	0	0
VIIb	180–193	6	0	0
VIII	193–222	4	0	1
IXa	222–238	1	0	0
IXb	238–259	0	0	0
X	259–275	103	2	1
XI	275–294	60	4	0
XII	294–317	24	4	0
XIIIa	317–330	18	3	1
XIIIb	330–348	109	9	0
XIV	348–364	74	7	0
XVa	364–378	254	47	1
XVb	378–388	6	1	0
XVI	388–402	3	1	0
		718	78	4
Others		40	37	0
		758	115	4

Grand Total: 877

THE IRREGULAR COINS

Barbarous radiates. There are 45 examples from the enclosure and two from the barrow, most of which are well-preserved. No die-linking could be found with these examples. The single Gallienus example (Pl. 1, 10) copies the *Libero P Cons Aug* panther reverse (from R. I. C. 229 or 574), and retains a well-silvered surface. Three copies of Victorinus are illustrated. Pl. 1, 11 is a copy of his *Salus Aug* and Pl. 1, 12 *Pax Aug*. Pl. 1, 13 shows a minim carrying the *Invictus* reverse of Victorinus and this example is a derivative of the irregular *Invictus/Pietas* group, initially identified by H. B. Mattingly. It is smaller than other known examples and is probably a local copy of the main group thought to have been emitted from a mint in the Midlands.[8]

Five copies of Tetricus II are illustrated. Pl. I, 14 and 15 are both based on his *Spes Augg* type. Pl. 1, 16 shows *Virtus Augg*, 17 shows *Pax Aug* and 18 shows *Salus Augg*.

Fourth-century copies

Most of the 75 copies belong to the *Gloria Exercitus*, the Fallen Horseman, the *Constantinopolis* or to the two Victories type, all of which are commonly encountered. Others are more unusual and require further description. Most interesting are seven overstruck coins. These

[8] H. B. Mattingly, 'The Lightwood Hoard and the Coinage of "Barbarous Radiates"', *N. Staffs. Journ. Field Studies*, iii (1963), 22; G. D. Lewis and H. B. Mattingly, 'A Hoard of Barbarous Radiates from Mill Road, Worthing', *Num. Chron.* 7th ser. iv (1964), 192.

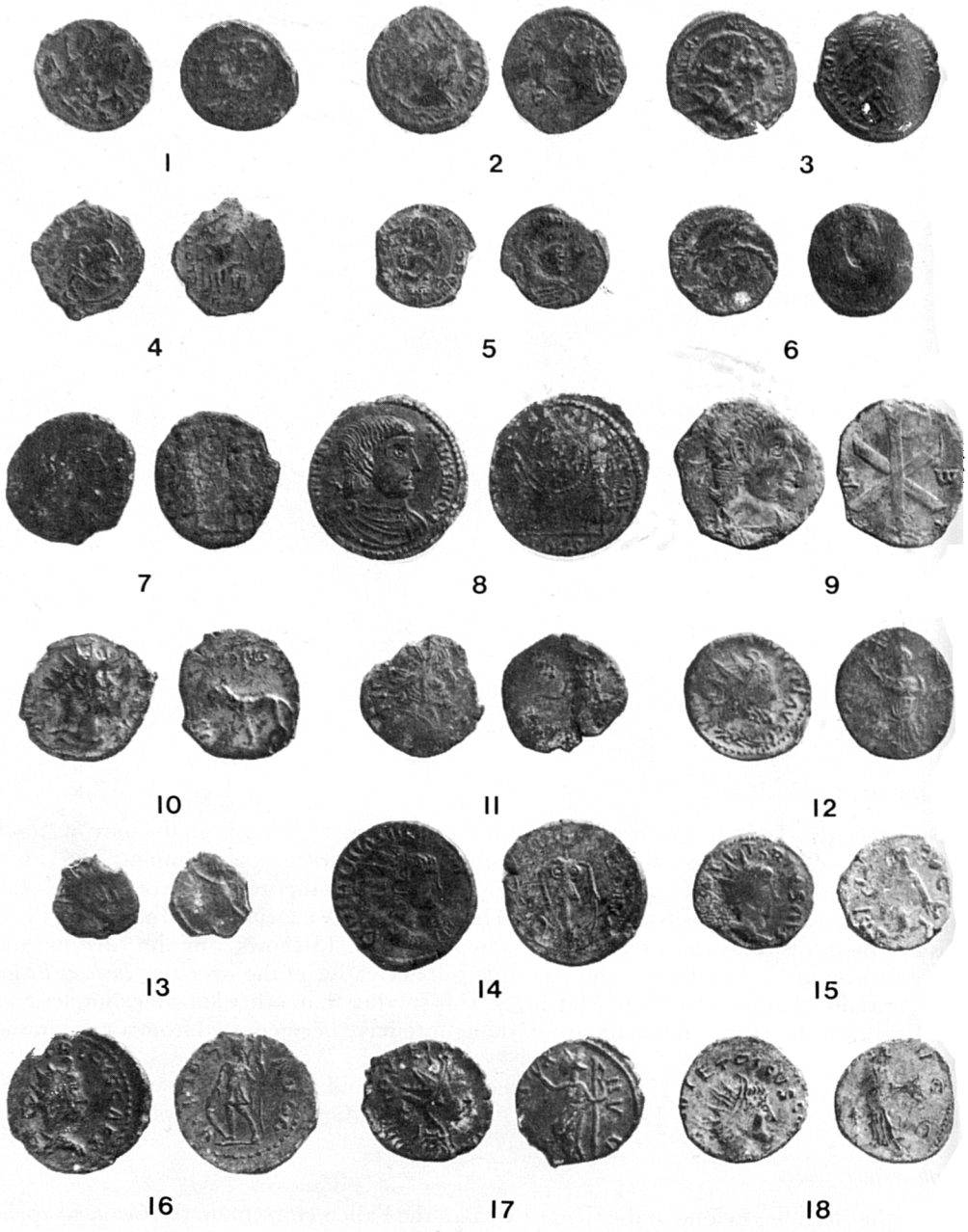

Plate 1. Irregular coins from Lowbury Hill.

were all initially regular coins struck between A.D. 330 and 346, but were subsequently struck with irregular dies depicting the *Fel Temp Reparatio*, Fallen Horseman, type. They can be described individually.

TABLE 2

Sources of fourth-century coin from Lowbury Hill

Dates coins struck

	294–317		*317–330*		*330–348*		*348–364*		*364–378*		*378–388*	*388–402*
	No	%	No	%	No	%	No	%	No	%	No	No
LONDON	13	46.4	4	23.5								
TRIER	10	35.7	1	5.9	46	74.2	10	52.6	3	1.8		
LYONS	1	3.6	9	52.9	10	16.1	4	21.1	39	23.9	2	1
ARLES	1	3.6			6	9.7	2	10.5	97	59.5		1
TICINUM	2	7.1	1	5.9								
ROME	1	3.6	1	5.9					7	4.3		
AQUILEIA							2	10.5	8	4.9		
SISCIA							1	5.3	9	5.5		
THESSALONICA			1	5.9								
Uncertain			3		29		16		137		5	2
	28		20		91		35		300		7	4
Irregular					27		46		1			

(Percentage of identifiable mints, not of all coins)

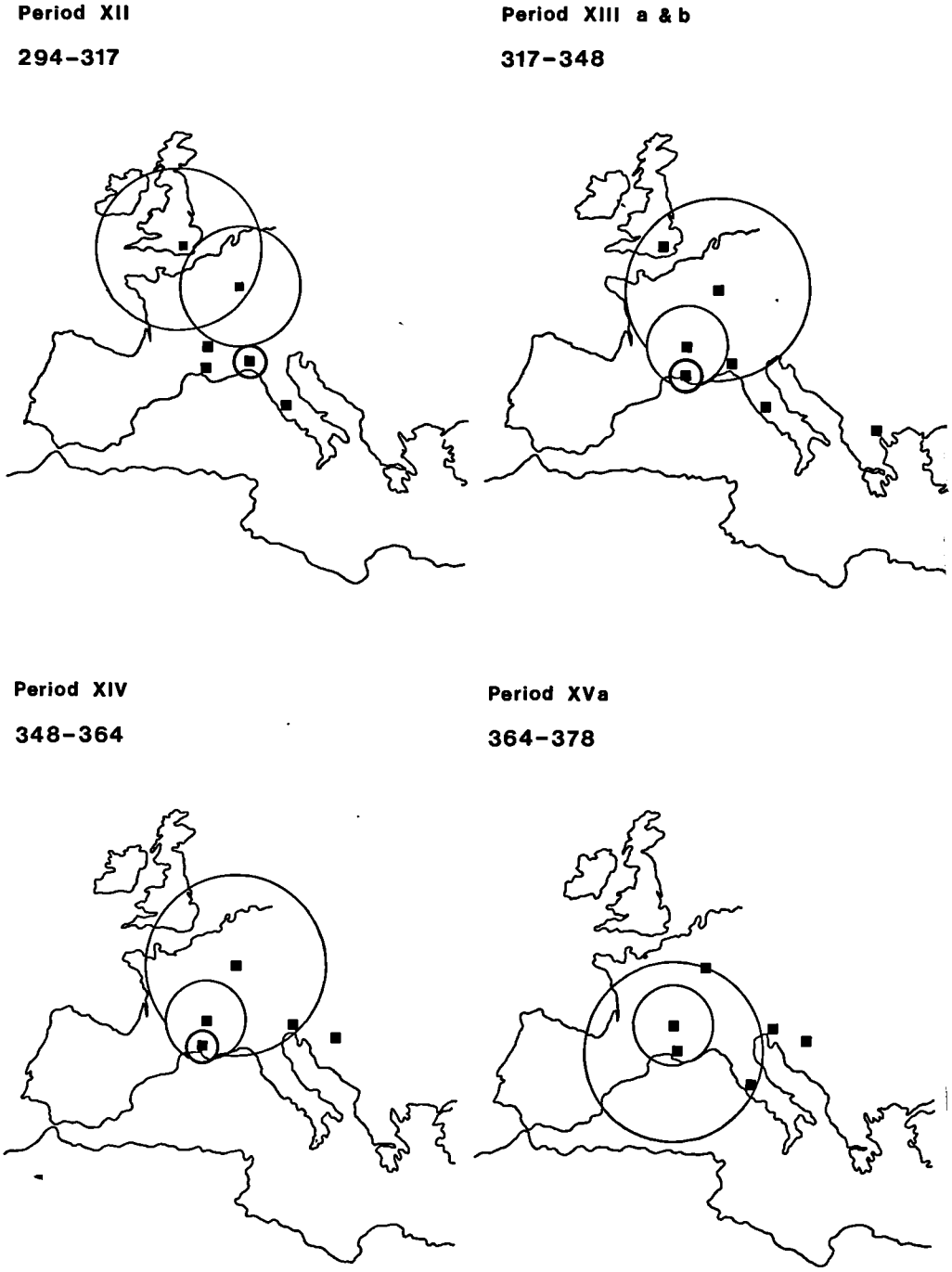

Fig. 2. The mints represented among the Lowbury Hill coins are shown by squares. Main mints represented are indicated by circles of differing size, in proportion to the number of their coins present.

Numbers cited relate to illustrations on Pl. 1.

1 Obv. Head of Constantius II, r., overstruck by an irregular 'fallen horseman'.
Rev. Two Victories (*Victoriae DD Augg Q NN*), overstruck by an irregular head.
2 Obv. Head of Constans, r. overstruck by an irregular head.
Rev. Two Victories, overstruck by an irregular 'fallen horseman'.
3 Obv. Head of Constantine, r., overstruck by an irregular 'fallen horseman'.
Rev. *Gloria Exercitus* TRS·, overstruck by the head of Constantius II.
4 Obv. Draped bust, overstruck by an irregular head.
Rev. *Gloria Exercitus*, overstruck by an irregular 'fallen horseman'.
5 Obv. Head r., overstruck by an irregular 'fallen horseman'.
Rev. *Gloria Exercitus*, overstruck by an irregular head.
6 Obv. Head of Constans, r., overstruck by an illegible, irregular rev. type.
Rev. *Gloria Exercitus* TRP, overstruck by an irregular head.

A seventh example (not illustrated), badly corroded, is another *Gloria Exercitus* example, overstruck by an irregular 'fallen horseman'.

The overstriking of barbarous *Fel Temp Reparatio* dies on coins dated to 330 and after is not unknown elsewhere but the examples described here are well-preserved and clearly illustrate this phenomenon. Nos. 7 and 8 on Pl. 1 are irregular versions of Magnentius and his reverse type *Victoriae DD NN Aug et Cae, Vot/V/Mult/X*. No. 9 is a very lightweight copy of Constantius, with his Chi-Rho reverse.

MINT SUPPLY TO THE SITE

The assemblage from Lowbury Hill is large enough to provide a clear picture of the mint supply to the site, and to this part of Britain, in the 4th century. This data is summarised in Table 2 (above, p. 5). The supply of coin is seen to change in relation to known activity at the major western mints, and the picture compares closely with the situation documented in the recent summary of the coins from Richborough.[9] An exception is in period XIIIa (A.D. 317–30) when Trier was the dominant mint supplying the Kent site but is only represented at Lowbury by a single barrow coin.[10] The absence of Trier coin is surprising, although the number of coins recorded in this period is low.

London was the principal mint supplying the site until its closure in A.D. 326. Trier was generally very important through the first half of the century, becoming dominant after the closure of London, until its decline after the fall of Magnentius in A.D. 353. Arles is better represented after this and Lyons becomes more important after re-opening in A.D. 336/7, following its earlier closure at the same time as London.

The main supply from London and the Gallic mints is very much as would be expected. A mere handful of coins originated from Rome and the Balkans mints, with a single example from Thessalonica. No mints further afield than this are represented. This coin supply to Lowbury Hill has been summarised in Fig. 2.

THE NATURE OF THE SITE

Atkinson described the unusual features of Lowbury Hill, such as the location, but chose to interpret the site as a small settlement that was farmed in conjunction with a larger unit on the Downs below, perhaps in use for penning cattle and sheep during part of the year only. G. J. Copley, in his *Archaeology of South East England* of 1958, accepted this interpretation,

[9] R. Reece, 'The Roman Coins from Richborough – a Summary', *Institute of Archaeology Bulletin*, xviii (1981), 49–71.
[10] Ibid., 62.

while in the same year A. L. F. Rivet suggested that it was a (probable) rural temple site.[11] Atkinson had uncovered the skeleton of a middle-aged woman which may have been intended as a foundation sacrifice, for it had been placed in the foundation trench of the enclosure wall, during construction. Although parallels for this practise are not common in Britain, three infant burials were found in the foundations of the rectangular temple at Springhead.[12] M. J. T. Lewis reviewed this evidence in 1966 and thought that the enclosure wall could have belonged to a temenos, but considered that an enclosed farmstead was a more likely interpretation overall.[13]

The Ordnance Survey map of Roman Britain, 3rd edition (1956), lists Lowbury under *temples and shrines*, but in the 4th edition (1978) it has been removed from that section.[14] Most recently, W. Rodwell has listed the site as a temple, of unclassified type.[15]

The small finds from Atkinson's excavations are certainly both more profuse and more varied than those encountered from other recorded farmsteads. Iron objects, which include tools and some apparent pastoral implements, together with the presence of cattle and sheep bones, would perhaps be in keeping with the farmstead interpretation. However, the presence of 56 fibulae, 20 finger rings, with numerous needles, toilet equipment, bracelets and other bronze objects, as well as some ten spearheads, collectively indicate a more unusual site function.[16] Although it is not possible to prove a clear religious significance for individual items, the richness of the assemblage would strongly favour a religious interpretation for the site. Such a religious centre would be expected to have associated functions such as that of a market and location of major fairs, which would explain the quantity and diversity of finds.[17]

The coin list from Lowbury would reinforce this interpretation, being clearly too large to be associated with just a farmstead. Unfortunately it is not possible to diagnose a temple site from the pattern of coin loss alone because of the similarities shared with other forms of rural site.[18] However, the pattern of coin loss here does bear specific similarities to known temple sites, in particular its low percentage of radiate coinage (coins of periods X and XI comprise 20 per cent of the total). The striking proportion of coin from period XVa has also been recorded at Nettleton and possibly at Lydney Park, both religious sites, although it is not a *common* feature of that category of site.[19]

Rodwell suggested that a temple still awaits discovery on the site, probably to the south of the main enclosure. In the absence of further excavation, the current artefactual evidence, including the coins, points to more than just an agricultural settlement. The site location, the enclosure wall and foundation burial would all suggest a temple. If this interpretation is correct, then the unexplained peak of coin in period XVa could be associated with the pagan revival of the years A.D. 360–80.

[11] G. J. Copley, *An Archaeology of South East England* (1958), 135; A. L. F. Rivet, *Town and Country in Roman Britain* (1958), 140.

[12] *Journ. Rom. Studs.* lii (1962), 189.

[13] M. J. T. Lewis, *Temples in Roman Britain* (1966), 97.

[14] *Ordnance Survey Map of Roman Britain* (3rd edn., 1956), 31.

[15] W. Rodwell, 'Temples in Roman Britain: A Revised Gazetteer', *Temples, Churches and Religion in Roman Britain*, 574.

[16] An unusually large number of brooches were similarly recovered at Nettleton. See W. J. Wedlake, *The Excavation of The Shrine of Apollo at Nettleton, Wiltshire, 1956–1971* (1982), 118–35.

[17] P. Salway, *Roman Britain* (1981), 281.

[18] R. Reece, op. cit. note 6, 120.

[19] R. E. M. and T. V. Wheeler, *Report on the Excavation of the Prehistoric, Roman, and Post-Roman Site in Lydney Park, Gloucestershire* (1932).

THE CATALOGUE

Abbreviations used:

In period XIIIa
SIC Soli Invicto Comiti

In period XIIIb
GE Gloria Exercitus
VDAQN Victoriae DD Augg Q NN

In period XIV
VDNAEC Victoriae DD NN Aug et Cae
FTR Fel Temp Reparatio

In period XVa
GR Gloria Romanorum
SR Securitas Reipublicae
GNS Gloria Novi Saeculi

THE ENCLOSURE

Period IIb A.D. 54–69

2	NERO	RIC 304, As indet.

Period III A.D. 69-96

2	VESPASIAN	Asses indet. (2).
1	TITUS	RIC 789a.
10	DOMITIAN	RIC 249b, 333, 333/49/422, 351, 357, 417, Asses indet. (3).

Period IV A.D. 96–117

5	NERVA	RIC 51, 76, 93, Dupondii indet. (2).
7	TRAJAN	RIC 142, 391, 492, 603, 674, Dupondii indet. (2).

Period V A.D. 117–138

6	HADRIAN	RIC 636, 669, 974, Sestertii indet. (3).
1	Sabina	As indet.

Period VI A.D. 138–161

8	ANTONINUS PIUS	RIC 597, 910, 930 (2), 941, 950, Sestertius indet., As indet.
3	Faustina I	RIC 1182, Dupondius/As indet. (2).

Period VIIa A.D. 161–180

6	MARCUS AURELIUS	RIC 356, 931, 960, 1265, 1318, Sestertius indet.
3	Verus	RIC 1276, 1397 (2).
2	Faustina II	RIC 1638, 1696.

Period VIIb A.D. 180–193

6	COMMODUS	RIC 312, 461/491, 552, Asses indet. (2), As/Dupondius indet.

Period VIII A.D. 193–222

1	SEPTIMIUS SEVERUS	RIC 313.
1	Julia Domna	RIC 867.
1	CARACALLA	RIC 6.
1	Geta	Denarius indet.

Period IXa A.D. 222–238

1	SEVERUS ALEXANDER	Dupondius indet.

Period X A.D. 238–259

16	GALLIENUS (259–68)	RIC Rome 159, 160, 163, 176, 179, 236, 244, 256 (2), 267, 274a, 283, 326; Mediolanum 510; Ant. indet. (2).
32	CLAUDIUS II	RIC Rome 14, 16, 19, 32 (2), 36 (2), 46, 48 (3), 52, 54 (2), 98, 102 (2), 105; Mediolanum 137 (3), 157, 171; Commemorative 261 (2), 266; Ant. indet. (3).
3	QUINTILLUS	RIC 1, 9, 29.
1	AURELIAN	RIC 38.
	GALLIC EMPIRE	
3	POSTUMUS	ELMER 613, 614, Ant. indet.

1	MARIUS	ELMER 632.
9	VICTORINUS	ELMER 682 (2), 683, 732, 741, 743 (3), Ant. indet.
16	TETRICUS I	ELMER 764, 764/7, 775 (3), 779 (2), 780, 786/7, 787 (2), 789 (2), Ant. indet. (3).
6	TETRICUS II	ELMER 769, 769/91/3/6, 777, 778 (2), 796.
		Period XI A.D. 275–294
6	PROBUS	RIC 38, 120, 178, 203, 359, 642.
8	CARAUSIUS	RIC 98 (2), 101, 121, 513, 878, 883. Struck in the name of Diocletian: RIC 5
1	ALLECTUS	RIC 38.
		Other 3rd-Century
16	Indet. coins, regular, radiate heads	(Period X).
45	Barbarous radiates (Period XI).	
		Period XII A.D. 294–317
3	RIC 6 London	Galerius indet., 254, 279.
8	RIC 7 London	6 (2), 15, 79, 88 (4).
8	RIC 6 Trier	655b, 668b, 870, 873 (2), 890, 898 (2).
1	RIC 7 Trier	105.
2	RIC 6 Ticinum	57a, 316.
1	RIC 7 Arles	57.
1	RIC 6 Rome	106b.
		Period XIIIa A.D. 317–330
4	RIC 7 London	145, 211, 259, 295.
9	RIC 7 Lyons	79.
1	RIC 7 Ticinum	167.
1	RIC 7 Rome	237.
1	RIC 7 Thessalonica	75.
1	Uncertain mint:	IMP CONSTANTINVS AVG, SIC.
		Period XIIIb A.D. 330–348
15	RIC 7 Trier	526, 527, 528, 529 (3), 537, 542, 543, 544, 545 (2), 548, 561, 563.
28	RIC 8 Trier	44, 77, 79, 86, 90, 91, 102, 181 (2), 185 (4), 194 (3), 196 (5), 197, 199 (4), 203, 206.
3	Trier, Uncertain:	*GE (1 standard)* – FL IVL CONSTANTIVS AVG; *VDAQN* – CONSTANS PF AVG (2).
5	RIC 7 Lyons	244, 245, 246, 247, 256.
2	RIC 8 Lyons	24, 38.
3	Lyons, Uncertain:	*VDAQN* – CONSTANS PF AVG (2); *VDAQN* – CONSTANTIVS PF AVG.
2	RIC 7 Arles	360 (2).
1	RIC 8 Arles	79.
3	Arles, Uncertain:	*VDAQN* – CONSTANS PF AVG; *VDAQN* – CONSTANTIVS PF AVG. *GE (1 standard)* – CONSTANTIVS PF AVG.
21	Uncertain mints:	*GE (1 standard)* – CONSTANTINVS MAX AVG, CONSTANTINVS IVN NC, FL IVL CONSTANTIVS NOB C, FL IVL CONSTANS NOB C, FL IVL CONSTANS AVG, CONSTANS PF AVG, FL IVL CONSTANTIVS AVG, Other (1). *GE (2 standards)* – CONSTANTINVS IVN NOB C, Other (1). *Theodora* – FL MAX THEODORAE AVG, PIETAS ROMANA (2). *VDAQN* – CONSTANS PF AVG (5), CONSTANTIVS PF AVG. Other (2).
26	Irregular	See list below.
		Period XIV A.D. 348–364
10	RIC 8 Trier	222, 228 (2), 232, 266, 270, 310, 358, 359. *Magnentius* – VDNAEC.

2	RIC 8 Arles	215, 253.
4	RIC 8 Lyons	189 (3). *Magnentius* – VDNAEC.
1	Siscia	FTR (fallen horseman).
15	Uncertain mints:	*FTR*; Phoenix – DN CONSTANS PF AVG; Other (1). Fallen horseman – DN CONSTANTIVS PF AVG; DN IVLIANVS NC; Other (1). *Magnentius* – VDNAEC.
42	Irregular.	See list below.
		Period XVa A.D. 364–378
8	RIC 9 Aquileia	7a, 9a (2), 11b (2), 12b. *Valentinian* – GR, *Valens* – SR.
92	RIC 9 Arles	7a (5), 7d (9), 9a (7), 9b (8), 15 (11), 16a, 16b, 17a (6), 17b (7), 18b (5), 19b (2). *Valentinian* – GR (3), SR (9). *Valens* – SR (13), GR (4). *Gratian* – GNS.
37	RIC 9 Lyons	12, 20a (10), 20c (8), 21a (11), 21b. *Valentinian* – GR, *Valens* – SR (4), *Gratian* – GNS.
7	RIC 9 Rome	24a (2), 24b (4), 24c.
9	RIC 9 Siscia	14a (3), 14c, 15a (3). *Valentinian* – SR, *Valens* – GR.
3	RIC 9 Trier	32b (3).
98	Uncertain mint:	*Valentinian* – GR (6), SR (8). *Valens* – GR (13), SR (16). *Gratian* – GR, GNS (9), SR. *Uncertain emperor* – SR (31), GR (13).
		Period XVb A.D. 378–388
2	RIC 9 Lyons	30a (2).
4	Uncertain mint:	*VICTORIA AVGGG* – Valentinian II, Uncertain (2). *Gratian* – VOT XV MVLT XX.
		Period XVI A.D. 388–402
1	RIC 9 Lyons	44d.
2	Mint uncertain:	*Arcadius* – VICTORIA AVGGG, Other (1).
		Other 4th-Century
10	Illegible coins, regular.	
		Coins struck in indeterminate periods
27	Completely illegible.	
		Post-Roman
1	Henry I, Norwich mint.	
1	George III, halfpenny, 1797.	
1	Victoria, halfpenny, 1893.	
		The Irregular Coins

A Barbarous Radiates:			
8	CENTRAL EMPIRE	(17.8 per cent).	
	Gallienus		1
	Claudius II		1
	Divo Claudio,	Altar	3
		Eagle	3
22	GALLIC EMPIRE	(48.9 per cent)	
	Victorinus,	Invictus	2
		Other (Pax, Salus, Illeg.)	3
	Tetricus I & II	Hilaritas	2
		Mars (reversed)	1
		Pax	2

		Pietas – Sacrificial Implements	1
		Salus Augg	2
		Spes	4
		Victoria/Comes Aug	1
		Virtus	2
		Tetricus I, unusual female rev.	1
		Tetricus I, illeg. rev.	1
10	UNUSUAL TYPES		
	Design rev. type, obv. unidentified		2
	Unusual minimi		8
5	UNCLASSIFIABLE	(11.1 per cent)	5
			—
			45

Total number of minimi – 12 (26.7 per cent.)

B Irregular 4th-Century Types:

22 GLORIA EXERCITVS
2 standards – 5. Trier × 3 (TRS, TR.P, TRS$^{\text{gf}}$) Illeg. × 2.
1 standard – 14. Trier × 6, Lyons × 1 (PLG), Illeg. × 7.
Uncertain – 3.

1 CONSTANTINOPOLIS Trier × 1 ($\overset{R}{\text{TRP}}$). $\overset{\text{gf}}{\text{S}}$

3 VICTORIAE DD AVGG Q NN Lyons × 1 ($\overline{\text{PLG}}$), Illeg. × 2.

31 FEL TEMP REPARATIO (Fallen horseman).

7 Re-struck coins, combining Gloria Exercitus/Fallen horseman.

3 Magnentius (VICTORIAE DD NN AVG ET CAE).

1 Constantius (Chi-Rho, Trier mint mark – as RIC 332).

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68

THE BARROW

Period X

2 GALLIENUS (259–68) RIC Rome 207, 236.

Period XI

2 Barbarous radiates (Period XI).

2 Indet. coins (Period XI).

Period XII

1	RIC 6 Trier	730.
2	RIC 7 London	88 (2).
1	RIC 6 Lyons	308.

Period XIIIa

1	RIC 7 Trier	547.
2	Uncertain mint:	*Constantine* – BEATA TRANQVILLITAS, CONSTANTINVS IVN NC – VIRTVS EXERCIT.

Period XIIIb

8	Uncertain mints:	*GE (1 standard)* – CONSTANTINVS MAX AVG, CONSTANTIVS PF AVG, Other (2). *VDAQN* – CONSTANS PF AVG (3), Other (1).
1	Irregular.	

Period XIV

2	RIC 8 Aquileia	112, 209.
1	Uncertain mint:	*FTR*; Hut – DN CONSTANS PF AVG.
4	Irregular	

Period XVa

5	RIC 9 Arles	9, 15. *SR* – DN VALENS PF AVG, Other (2).

2	RIC 9 Lyons	20a, *GR* – DN VALENTINIANVS PF AVG.
39	Uncertain mints:	*DN VALENTINIANVS PF AVG* – SR (3), GR (2). *DN VALENS PF AVG* – SR (4), GR (2). *DN GRATIANVS AVGG AVG* – GNS (7), *DN GRATIANVS PF AVG* – GR (3). SR – Illeg. obv. (15), GR – Illeg. obv. (2), Completely illeg. – head of Valens/Valentinian (1).
1	Irregular.	

Period XVb

1	Uncertain mint:	VICTORIA AVGGG – Obv. illeg.

Period XVI

1	RIC 9 Arles	30d.

Other 4th-Century

14	Illeg. coins, regular.
1	Irreg., but prototype uncertain.

Coins struck in Indeterminate Periods

22	Completely illegible.

The Irregular Coins

A	*Barbarous Radiates:*
1	GALLIC EMPIRE: Tetricus II, Salus Augg.
1	Illegible.
—	
2	

B	*Irregular 4th-Century Types:*
1	VICTORIAE DD AVGG Q NN.
4	FEL TEMP REPARATIO (Fallen horseman).
1	GLORIA NOVI SAECVLI.
1	Uncertain.
—	
7	

COINS FOUND NEAR LOWBURY HILL

1	MACRINUS	RIC 80.
1	VICTORINUS	ELMER 741/2.

Period XIIIa

1	RIC 7 Trier	455.

Period XVa

1	GLORIA ROMANORVM – DN VALENTINIANVS PF AVG

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THE BARBAROUS RADIATES FROM RICHBOROUGH

BY

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THE BARBAROUS RADIATES FROM RICHBOROUGH

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The barbarous radiates from Richborough are the largest collection of these coins from a single excavated site in the south of England. Despite the advances made towards an understanding of this strange currency, our knowledge has so far come almost exclusively from hoard studies. The analysis of site collections is an essential step towards a fuller understanding of these coins, and in particular to determine what types were in everyday use and how they circulated. Indeed, of the large number of hoards buried during the late third century containing barbarous radiates, many comprise coins which never reached circulation. Some contain coins which have come straight from a mint, still accompanied by others struck from the same dies. It is not possible to make firm conclusions about the behaviour and function of this coinage without some reference to large site collections.

Classification and composition

Where possible, the 2010[1] coins have been separated between Central Empire and Gallic Empire copies. Others, though exhibiting some sign of being irregular, but which defy identification because of corrosion and wear, are totalled separately. Both major categories list total copies of each emperor. Under the second category the vast majority of coins derive from Tetrican prototypes, and these have been sorted into reverse types, as used by Dr Sutherland.[2] Further categories considered under the Gallic Empire section include badly worn, partially identified coins, as well as many unusual types which deserve separate consideration and discussion.

The poor preservation of coins recovered from the site is in contrast to the condition of many hoards and is an inhibiting factor in the identification process. As well as the problem of corrosion, these site finds exhibit wear derived from vigorous circulation prior to deposition. The assemblage as a whole contains a great variety of types and represents a complete sequence from the earliest to the latest copies, which is seldom seen in a single hoard. The Richborough coins also show the usual weaknesses of this series including illiterate, or absent, legends, off-centre striking, blurring from over-use of dies and a wide variety of flan sizes and shapes. Some ninety per cent of the coins have been classified to some degree, for comparative purposes.

The types found to be most numerous are those which commonly predominate in hoards. Strangely the Central Empire as a whole, but in particular the ubiquitous Divo Claudio types, are poorly represented and are sparser than on comparable sites.[3] From the Gallic Empire category coins assignable to Victorinus are again rather few. The bulk of the collection derives from Tetrican prototypes, with Pax and Spes reverses predominating, but with

List of Types at Richborough

		No. of coins	*% of total*
A.	Central Empire types		
	Gallienus	10	
	Claudius 2	28	
	Divo Claudio	25	
	Aurelian	3	
B.	Gallic Empire types		
	Postumus	3	
	Victorinus	77	3.8
	Tetricus 1 and 2		
	Aequitas	3	
	Felicitas	2	
	Fides Militum	16	
	Fortuna	10	
	Hilaritas	28	1.4
	Jupiter	2	
	Laetitia	31	1.5
	Mars	1	
	Pax	310	15.4
	Pietas, Implements	49	2.4
	Providentia	16	
	Salus	98	4.9
	Spes	183	9.1
	Victoria	18	
	Virtus	40	2.0
	Tetricus 1, illegible rev.	123	
	Tetricus 2, illegible rev.	69	
	Uncertain obv., female figure rev.	174	
	'Pin figure' rev.	85	
	Unidentified minims	300	14.9
	Unusual types	76	
C.	Illegible, above minim size	230	11.4
	Grand Total:	2,010	
Total number of minims recorded		697	34.7

Hilaritas, Laetitia, Pietas (sacrificial implements), Salus and Virtus also popular. One reason for the apparently low tally under Victorinus must be the lack of really distinctive reverse types used by this emperor, apart from Invictus and Pax, with transverse sceptre. His benign features and hooked nose become indistinguishable among the near caricature, poorer copies, which predominate.

The classification of the smallest coins as minims again facilitates easier comparison. Although they represent a later phase of copying[4] they do appear to have circulated alongside barbarous radiates of larger module. However, as Mr Boon has warned elsewhere, this separation is not intended to reflect a denominational distinction.[5] The coins termed minims, in common with this coinage as a whole, refuse to conform to any strict constraints, meaning that no rigid criteria could be used for their classification. Mr Boon has shown that weight can differ appreciably between coins struck from

the same dies.[6] A study of the many die-linked groups present in the Sussex minim hoards from Worthing, Goring and Hove clearly confirms that there was no precise standard size or weight associated with a particular die combination.[7] One group from the Goring hoard contains nineteen coins which share common obverse and reverse dies. They all exhibit very irregular flan shapes, of between 10mm and 15mm diameter. Thickness varies from 1.5mm to 3.5mm and weight between 0.55g and 3.40g. In the present study, 13mm has been taken as the uppermost limit, measured across the widest part of the flan, with the coin thickness and die-size also being considered. No less than 697 coins fall into this category, which is thirty-five per cent of the total barbarous radiates.

The Richborough coins exhibit the diverse range of manufacturing techniques associated with barbarous radiates.[8] Clipping of flans is shown by numerous angular and square-shaped flans (Pl.1, 2). Some flans are clearly derived from quartered antoniniani (Pl.1, 1).[9] A general lack of desire for precision is shown by the incompatibility of die and flan sizes (Pl.1, 4). There was also a single brockage. Die axes are totally arbitrary, indicating no attempt to align dies.

Unusual coins and internal linking

Upon initial examination, the range and variety of types present at Richborough appears almost unlimited. Apart from less-obvious hybrids that cannot be assigned to the standard groups (two such examples are shown in Pl.2, 27-8), many others show figures stylised in such a way as to warrant the term 'pin figures' (Pl.2, 34-6).[10] Nine coins carry reverses which are in varying states of disintegration towards designs. Pl.1, 7, shows a Hilaritas derivative which has not quite lost its figure shape. Other distinctive types can be grouped together, each type being apparently linked by a common engraver. Because the most unusual coins are recognised in this way, and are most easily remembered, they tend to form the basis of die- and style-linked groups. A representative selection of the coins discussed is illustrated in the two plates.

One such group of four coins is characterised by a tiny, grotesque head and vigorous legend (Pl.1, 28-30). Another distinctive group, with two examples here, displays the square jaw of Claudius Gothicus on the obverse, coupled with the uncommon transverse sceptre variety of Pax on the reverse (Pl.2, 1-2). There are two examples with similar obverse in the Richborough (1931) hoard.[11] This hoard, housed at the British Museum, contains a few coins which display a closeness of style with the site coins, and include a single die-linked specimen.

Two unusual site coins share a common die-linked reverse, which depicts an animated male figure, wearing a halo (Pl.1, 20-1). Another internal style-group contains four coins with similar obverses (Pl.2, 6-9). A different distinctive trait seen on a small number of coins is a grossly accentuated jaw on a portrait of Tetricus II (Pl.1, 13-15). Some unusual types are represented by single examples. One such coin has a reverse legend which is a mirror image of the letters PIETAS, reading from right to left (Pl.1, 3). Another unusual reverse, of a standing figure with crossed legs, brings to mind a reverse from the Newgate Street (Paternoster Row) hoard from London (Pl.2, 30).[12] Worthy of note is a Claudius Gothicus derivative which combines a joined-hands reverse, a type used by Gallienus and by Postumus (Pl.1, 16).

Two coins depict a reverse type so far unrecorded in barbarous radiates, of a female figure seated (Pl.1, 11-12). This is a copy of the

Concordia reverse used by Aurelian and Severina. The figure is very well engraved in both cases. What can only be described as 'mint marks' appear in the exergue on three coins (Pl.1, 9-10), although one example is clearly the result of an extended barbarous legend. Professor Mattingly has identified the same phenomenon in the Sussex minim hoards, where he found five examples at Worthing and two at Goring, and also in the Lightwood and Calverton hoards.[13] Examples of reverses with two or more figures occur occasionally in collections and have been recorded elsewhere.[14] There are four examples at Richborough. Barbarous radiates with more than one figure often show prominent and subsidiary figures, but the example illustrated (Pl.1, 17) shows two well-engraved figures of equal size. This reverse type is again derived from one of several such issues of Aurelian (probably *RIC* 215 or 394) but the obverse clearly depicts the features of Victorinus. One other type illustrated (Pl.1, 8) is still rarer amongst irregular coinage. It is a version of the non-figurative Saeculi Frugifero (winged caduceus) reverse of Postumus.

There are two other reverse types present at Richborough which, though not common, recur occasionally on sites and therefore warrant some discussion. They clearly illustrate the process by which new types were derived from a limited range of originals, by successive copying. The first of these shows a female or male figure brandishing a spear and a circular shield (Pl.1, 5-6). The prototype is not immediately apparent, especially regarding the circular shield. It is likely that through the process of copying from copies, this has been derived from the wreath held by the Laetitia figure. Two examples are present at Richborough. A second, and at first glance more puzzling, type is again represented by two examples (Pl.2, 25-6). A single 'pin figure' stands centrally in a 'trough'. This may be a derivative of the sacrificial implements type, or possibly represents a debased Virtus Augg of Tetricus. Whatever the original, this derivative is present elsewhere, notably at Verulamium and in the Newgate Street hoard. The style of workmanship is obviously different in these examples and shows that this distinctive type was arrived at independently.

Finally, examples from other internal groups are illustrated. Two examples come from a group characterised by their grotesque obverse portraits (Pl.1, 31-2). Similarly, three other coins show equally poor reverses (Pl.1, 33-5). Examples of coins linked by obverse portraiture are shown by two other groups (Pl.2, 4-5, and 32-3). Similarity of reverse style is shown by another (Pl.2, 10-11).

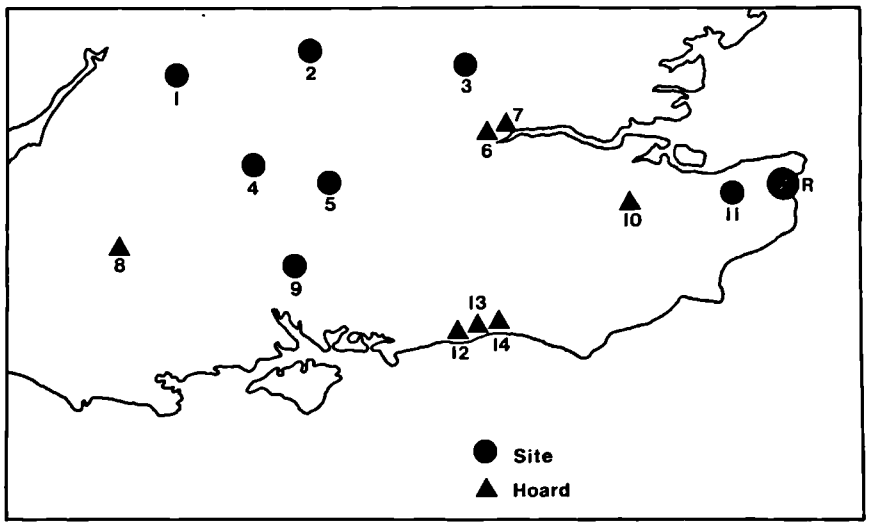
Links with other sites

Professor H.B.Mattingly has established evidence of the way in which barbarous radiates travelled widely and freely in Britain.[15] His groupings, based on die-links and closeness of style in hoards, provide a reference point from which to relate the types present at Richborough.

Mattingly's Midlands - Sussex Pax Aug group is the largest numerical group of barbarous radiates established so far, known to have come from a single source.[16] There are eight examples of this group at Richborough (Pl.1, 22-27). The link with the Sussex hoards is further strengthened by three coins bearing very close affinity to die-linked groups from Goring-on-Sea[17] (Pl.2, 21) and two other examples resembling another group from the same hoard (Pl.2, 22-3, with a Goring example illustrated, number 24).

One reverse contains a rather angular variety of Spes, coupled with a distinctively square head on the obverse (Pl.1, 18). This coin is part of a larger group recognised by Professor Mattingly, with examples from the

Hollingbourne hoard, Kent, from the Newgate Street hoard and from Verulamium.[18] Another coin shares obverse and reverse dies with an unpublished coin from Silchester (Pl.1, 19). A single minim example characterised by its high quality engraving, absence of legend and distinctly pointed features of Claudius II is part of a larger group with examples from Cirencester, and from the hoards of Newgate Street, Worthing and Mere, Wiltshire.[19]



Location of sites and hoards in the south of England mentioned in the text

R. Richborough
1. Cirencester
2. Woodeaton
3. Verulamium
4. Mildenhall
5. Silchester
6. Paternoster Row (Newgate St) hoard
7. Lime St hoard
8. Mere hoard
9. Winchester
10. Hollingbourne hoard
11. Canterbury
12. Goring-on-Sea hoard
13. Worthing hoard
14. Hove hoard

Examples from two other groups commonly found on sites and in hoards are present at Richborough. These types share characteristics that were initially recognised by Mattingly,[20] both groups being related by their obverse treatment which reduces the imperial portrait to very angular lines, usually accompanied by a V-shaped neck. Flan size lies in the range of 13-15mm diameter. The first of these groups is characterised by a ewer reverse, derived from the implements type. The ewer dominates the flan and has a large spiral handle. The legend is often reduced to a series of dashes (Pl.2, 12-13). The second group is distinguished by a male figure on the reverse, usually Sol, in a very animated stance (Pl.2, 14-16). Examples of these groups are found on many sites and hoards across the south of England.[21] They do not cluster in any particular area, on the basis of current evidence.

The other main external links can be described. One very basic, linear obverse (Pl.2, 17) closely resembles a coin from the Newgate Street hoard (Pl.2, 18). This London link is strengthened by another coin (Pl.2, 31) which has a very similar obverse to another Newgate Street coin. A more local link is provided by a distinctive obverse engraving (Pl.2, 3) which resembles the technique used on a number of Canterbury coins. In contrast, other more distant links are present. One obverse (Pl.2, 19) is very similar to a Cirencester coin (Pl.2, 20) and one other reverse (Pl.1, 36) resembles a coin from the Calverton hoard, from Nottinghamshire.[22] In relation to an internal group already described (Pl.1, 33-5) a coin from the Mildenhall, Suffolk, hoard is also of this type.[23]

The range of types and styles in evidence at Richborough is very wide and undoubtedly many types will resemble others by coincidence, and a cautious approach is accordingly taken here. A more thorough consideration of style and technique is essential in order to reinforce the die- and style-links described. Despite this necessarily cautious approach, many other coins do possess likenesses to coins from other areas, and the proportion of linking will in fact be higher, which suggests that these coins were part of a circulation pool which stretched at least right across the south of England, to the Midlands and probably further.[24] The problems involved are shown, for example, by a number of small Richborough coins, all having very simple engravings and no legend. These coins closely resemble others from Verulamium but in the absence of specific diagnostic details, stylistic similarity in such cases is very hard to describe and to prove. On the basis of the comparative date available, the present study has so far isolated about forty external links, with a comparable number of internal links. Others undoubtedly exist, in particular amongst the heavily worn material.

Conclusions

The comparatively small proportion of die- and close style-links identified in this large site collection (approximately five per cent of legible coins) shows clearly the huge scale of output of this coinage and that the high proportion of die-linking seen in many hoards is not representative of those coins in general circulation.[25] However, the number of links identified is high enough to establish a coherent picture. External links occur right across the south of England but without any evident main axis of contact at present. As the amount of comparative material increases, these external links would be expected to increase accordingly.

Mattingly and Stebbing suggested a local mint at Richborough, based on evidence of internal die-linking in the 1931 hoard.[26] The association of the hoard with the site coins and the degree of internal linking identified may in fact reflect some local manufacture, but the small proportion of coins in question shows that if such a mint existed, it was not supplying the sole needs of this site by any means. Only about three per cent of the identifiable coins studied here are found to link internally.

Distinctive traits that have been observed in the irregular coinage of Britain which have been diagnosed as relating to local production exist in certain areas. Many such styles comprise the distinctive cruder types and minims, forming unmistakable style groups. However, evidence from Richborough reinforces Mattingly's picture of a wide circulation and as more material is studied it can be seen that many of these groups are not found solely in one area. Neither is it safe to assume that an engraver was necessarily resident locally when such a group is found.

The period between the Gallic and British Empires allows for significant developments in the production of irregular coinage, which is reflected in the enormous range of quality, size, and type of coins in question. This coinage would have been produced on a scale according to particular requirements over time, in different areas. The evidence from Richborough contributes to our knowledge of some major mint groups, which can be seen to have served wide areas of the country, and indicates a degree of more centralised production alongside the local production which occurred in many areas.[27]

TABLE 1

Summary of internal groups

		Characteristics	
1.	Obv. & Rev. die-link	See Richborough (1931) hoard report, Pl.13, 3.	
2-3.	Rev. die-link	Pin figure, with halo	Pl.1, 20-1
4-7.	Style group	Tiny head, legend	Pl.1, 28-30
8-9.	" "	Head shape	Pl.2, 4-5
10-13.	" "	Head and legend	Pl.1, 31-2
14-16.	" "	Rev. figure and legend	Pl.1, 33-5
17-18.	" "	See 2 coins from (1931) hoard report, Pl.6, 7 & Pl.11, 7.	Pl.2, 1-2
19-20.	" "	With coins from (1931) hoard	
21-23.	" "	Head shape	Pl.1, 13-15
24-26.	" "	Obv. treatment	
27-28.	" "	Head shape, beard	Pl.2, 32-3
29-30.	" "	Obv. treatment	
31-34.	" "	Head shape	Pl.2, 6-9
35-36.	" "	Rev. figure	Pl.2, 10-11

TABLE 2

Summary of external groups

1-8.	Die- & style-link	Worthing, Goring, Hove hoards, Sussex; Calverton hoard, Notts.; Lightwood hoard, Staffs.; Whitchurch hoard, Avon.	Pl.1, 22-7
9.	Obv. & Rev. die-link	Silchester, Hants.	Pl.1, 19
10.	Die- & style-link group	Hollingbourne hoard, Kent; Verulamium; Newgate St hoard, London.	Pl.1, 18
11-13.	Style group	Goring hoard	Pl.2, 21
14-15.	" "	Goring hoard	Pl.2, 22-3
16.	" "	Mere hoard, Wilts.	
17.	" "	Various, especially Verulamium	
18.	" "	Various, especially Newgate St hoard	Pl.2, 17
19-20.	" "	Various	Pl.2, 12-13
21-25.	" "	Various	Pl.2, 14-16
26.	" "	Calverton hoard	Pl.1, 36
27.	" "	Woodeaton, Oxon.	
28.	" "	Cirencester, Gloucs.	Pl.2, 19
29.	" "	Lime St hoard, London?	
30-34.	" "	Various Verulamium coins.	
35.	" "	Newgate St hoard	Pl.2, 31
36-37.	" "	Mildenhall, Wilts.	
38.	" "	Winchester?	
39-40.	" "	Various, especially Gorhambury.	
41.	" "	Canterbury, Kent.	Pl.2, 3
42-44.	" "	Mildenhall hoard, Suffolk	Pl.1, 33-5

NOTES

I am extremely grateful to Professor H.B.Mattingly, Dr M.G.Fulford and Julie Gardiner for commenting on earlier drafts of this paper. I would also like to thank Dr R.M.Reece and Dr C.E.King, for their assistance during the preparation of the report, and staff of the Department of the Environment at Fortress House, in particular Mr N.Moore and Dr C.J.Young.

1. R.Reece, 'The Roman coins from Richborough - a summary', *Bulletin of the Institute of Archaeology*, 18 (1981), 49-71. Reece lists 1966 barbarous radiates whereas the figure in this present report includes others from the heavily abraded material.
2. C.H.V.Sutherland, *Coinage and currency in Roman Britain* (1937), pp.126-53.
3. The author has studied comparative assemblages from over 120 sites in the south of England. Central Empire derivatives normally form close to ten per cent of total imitations on sites. The low percentage here is not a reflection of the numbers of official types on the site (see Reece in note 1).
4. G.C.Boon, 'The counterfeiter's deposit', in *Coygan Camp*, edited by G. Wainwright (Cardiff, 1967), pp.119-20.
5. G.C.Boon, 'Counterfeit coins in Roman Britain', in *Coins and the Archaeologist*, edited by J.Casey and R.Reece (B.A.R. 4, 1974), p.115.
6. Boon, 'Counterfeit coins', p.118.
7. For the publication of these hoards, see H.Mattingly, 'The Hove radiate hoard', *Sussex Notes and Queries*, 7 (1939), 234-39; G.D.Lewis and H.B. Mattingly, 'A hoard of barbarous radiates from Mill Road, Worthing', *NC* 7th ser. 4 (1964), 189-99; H.B.Mattingly, 'A hoard of "barbarous radiates" from Goring-on-Sea', *Sussex Arch. Colls*, 105 (1967), 56-61.
8. Boon, 'The counterfeiter's deposit', p.126.
9. Some clear examples of this are illustrated by G.C.Boon in 'A Roman counterfeiter's den', *Proc. Univ. Bristol Spelaeological Soc.* (1972), Pl.4.
10. A term employed by H.B.Mattingly.
11. H.Mattingly and W.P.D.Stebbing, 'The Richborough hoard of "radiates", 1931', *American Numismatic Soc. Notes and Monographs*, 80 (1938), Pl.6, 7 and Pl.11, 7.
12. H.B.Mattingly, 'The Paternoster Row hoard of "barbarous radiates"', *NC* 7th ser. 7 (1967), Pl.7, 24.
13. Mattingly, 'Barbarous radiates from Mill Road, Worthing', p.191. The Lightwood and Calverton examples are discussed in his 'The Lightwood hoard and the coinage of "barbarous radiates"', *N. Staffs. Jour. Field Studies*, 3 (1963), 26.
14. P.V.Hill, 'Three barbarous overstrikes', *NC* 6th ser. 8 (1948), 93-95. Mattingly, 'The Lightwood hoard', p.24, with note 16 and Pl.2, 34.
15. Mattingly, 'The Lightwood hoard', pp.19-36; and 1964.
16. Mattingly, 'Barbarous radiates from Mill Road, Worthing', Pl.16, 34-58, and description on pp.198-99.
17. Mattingly, 'The Paternoster Row hoard', Pl.1, 5-7.
18. Mattingly, 'The Paternoster Row hoard', Pl.7, 36 and description p.66. See also, 1964, Pl.18, 101. Verulamium example illustrated in *NC* 6th ser. 8 (1948), p.89, no.5.
19. The Mere example is illustrated in H.Mattingly, 'A hoard of barbarous radiate coins from Mere, Wilts.', *NC* 5th ser. 14 (1934), Pl.10, 38.
20. Mattingly, 'Barbarous radiates from Mill Road, Worthing', p.192 and Pl. 16, 31-33. Also present in the Lightwood and Calverton hoards. See note 13.

21. Personal inspection by the author. See note 3.

22. H.B.Mattingly, 'Two hoards of Roman coins from Calverton', *Trans. Thoroton Soc. of Notts.*, 64 (1960), Pl.1, 14.

23. A.Robertson, 'A Roman coin hoard from Mildenhall, Suffolk, *NC* 6th ser. 14 (1954), Pl.5, 30.

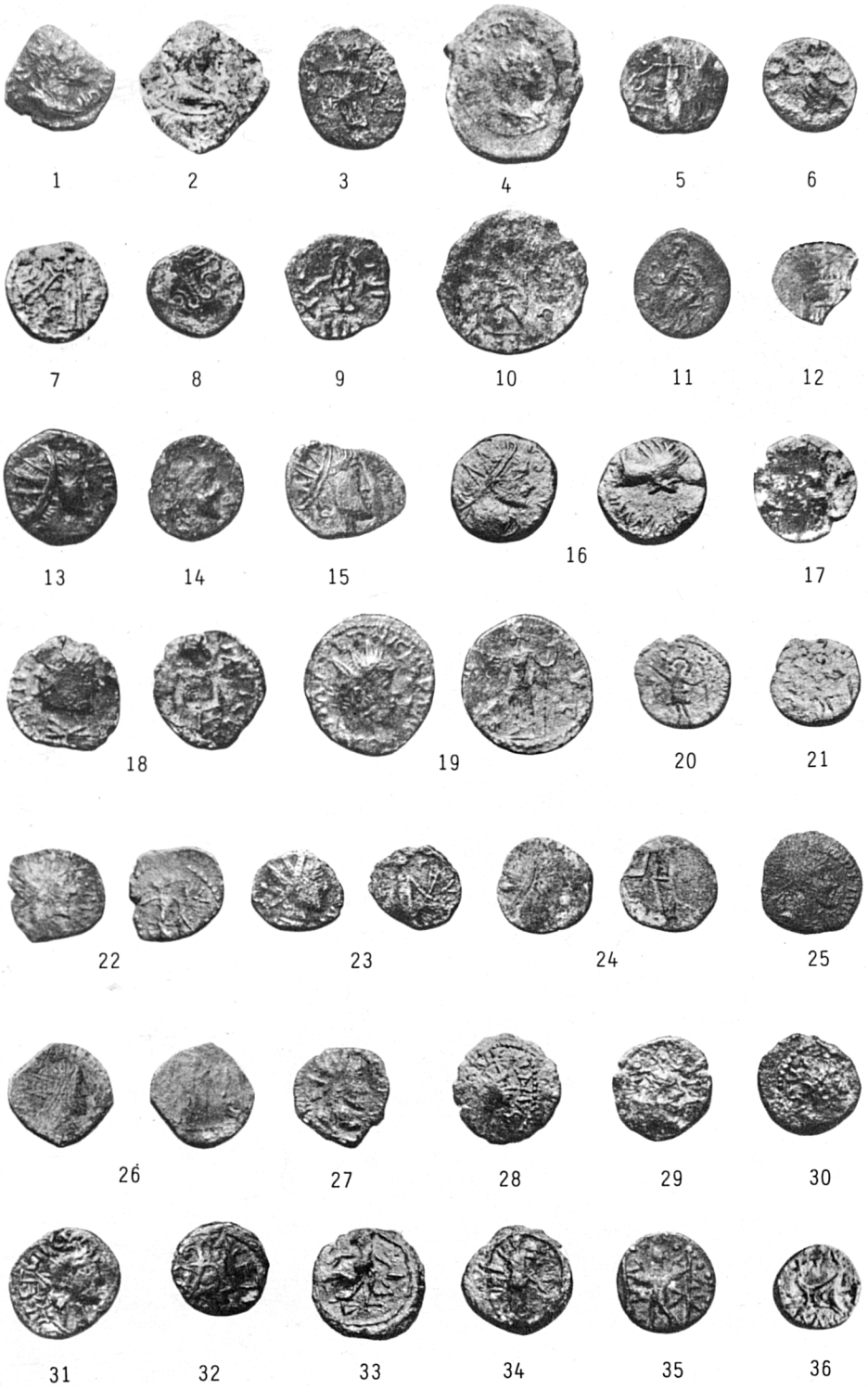
24. Coins from English sites and hoards are known to die-link with continental hoards. See Mattingly, 'The Lightwood hoard', p.24; J.Lallemand and M.Thirion, *Le Trésor de Saint-Mard 1* (Wetteren, 1970), pp.67-72; Boon, 'Counterfeit coins', and 'Counterfeiting in Roman Britain', *Scientific American* (1974), 120-30. The author knows of others, which will be discussed in future work.

25. Professor Mattingly has encountered a similar situation among the 370 site finds from Winchester (forthcoming report on the barbarous radiates from Winchester).

26. Mattingly and Stebbing.

27. Boon, 'The counterfeiter's deposit' and 'A Roman counterfeiter's den'. H.B.Mattingly, 'A hoard of barbarous radiates from Sprotbrough, South Yorks.', *NC* 142 (1982), 21-33.

PLATE 1



All coins shown are from Richborough

BARBAROUS RADIATES FROM RICHBOROUGH

PLATE 2

No.18 is from the Newgate St hoard, London; no.20 is from Cirencester; no.24 is from the Goring-on-Sea hoard; all others are from Richborough.

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